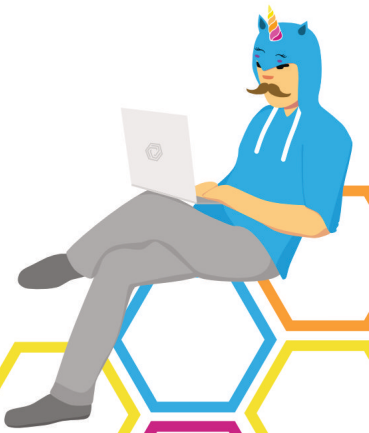
VIScon 2019

Program



Welcome

Welcome to VIScon 2019

After a very successful first VIScon we decided to go even bigger this year. This year's Symposium consists of 33 amazing talks and 7 fascinating workshops. Besides that, we brought a completely new thing to this year's VIScon: For all those who don't want to stop at the theoretic knowledge about computer science, we created an exhibition.

The exhibition will take place in the afternoon of VIScon, starting at 3 pm and taking place in the big tent in front of CAB. With more than 10 exhibitants that show you what can be done by implementing computer science in projects and gadgets, you have the chance to get a glimpse on the front line of innovation.

We also want to emphasize our focus on the interdisciplinarity of computer science even more. Besides the last year's tracks called "Technical Computer Science Track" and "Entrepreneurship Track", we introduced our new "Computer Science in Engineering Track". With 8 talks and 2 workshops in this track, there are plenty of ways to explore the bridges between computer science and other disciplines.

You will get an amazing opportunity to hear first-hand how companies make use of the technologies you learn about in lectures. Meanwhile, the workshops enable you to build or learn new topics you might not encounter until after graduating.

In that means, go and experience, browse, soak in as much new information as possible, and enjoy the realm of computer science in a whole new way!

At the end of the day, we want you to walk out of the building filled with motivation, inspiration and a fire within to build and mold the IT world of the coming decades - by making new discoveries and possibly even by founding a startup.

Get inspired, network, learn and most importantly: Have fun!

Celina Rhonheimer
Head of Symposium

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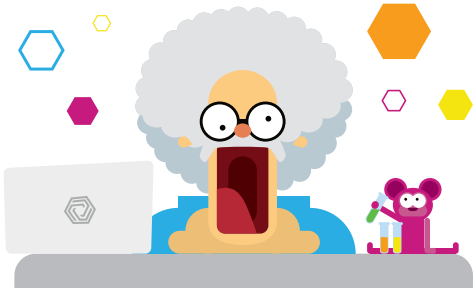

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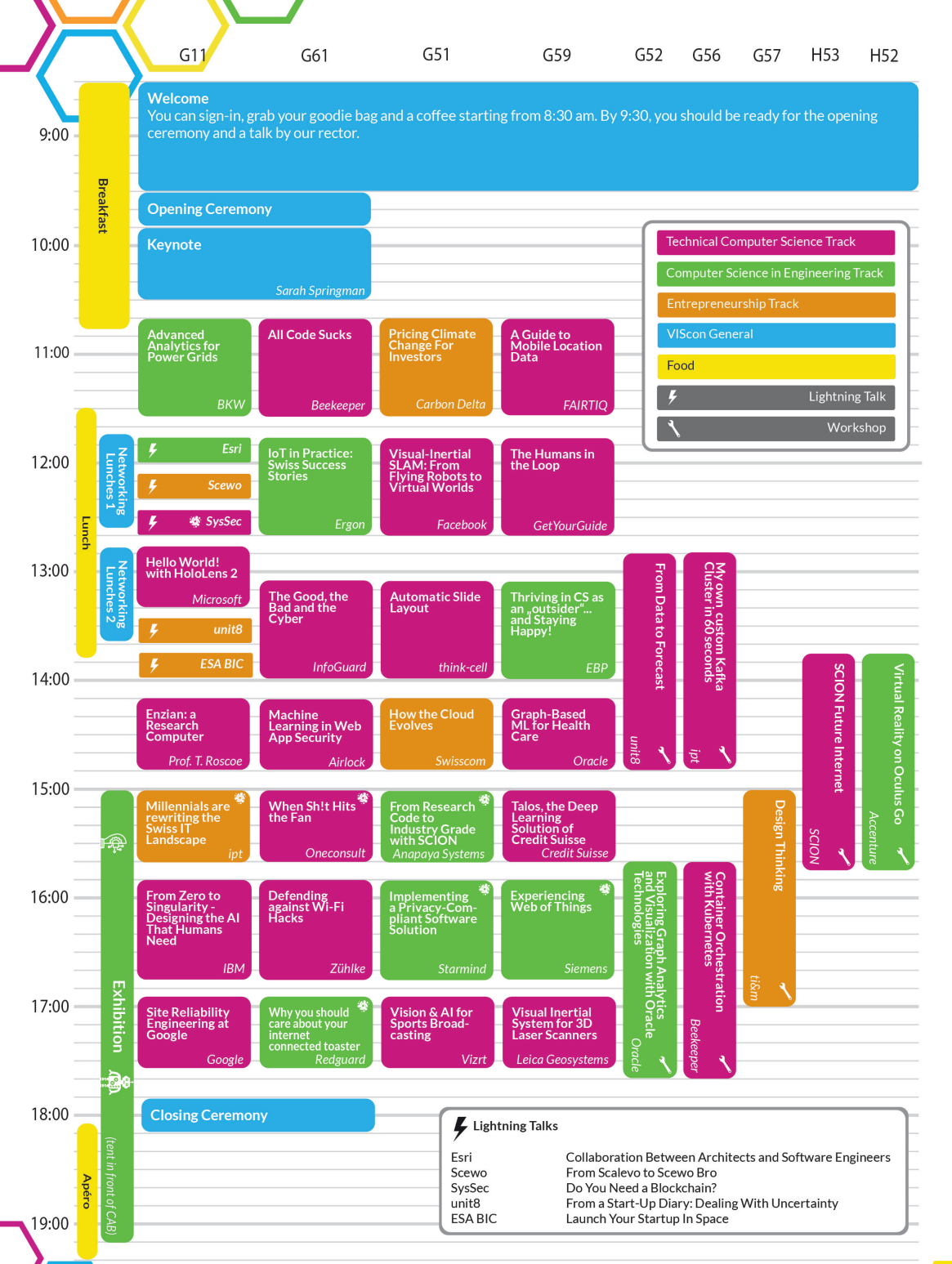
G11
G61
G51
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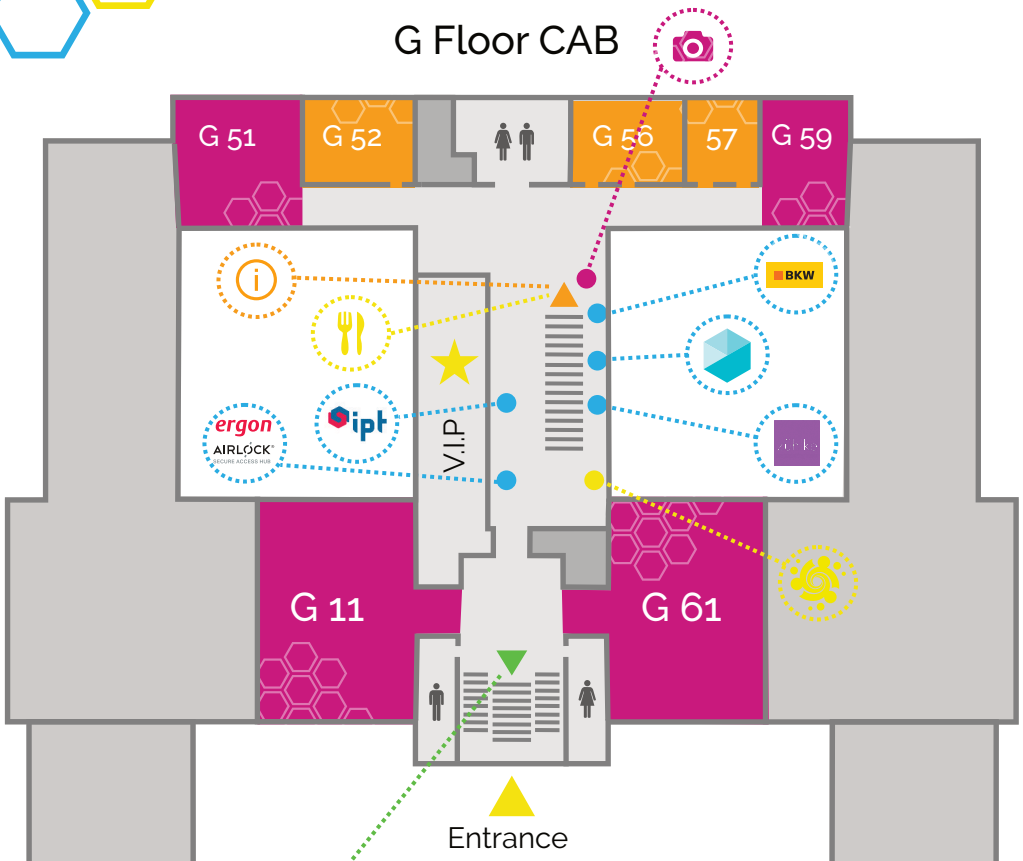
H53
H52
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
Breakfast
Lunch
Networking Lunches 1
Networking Lunches 2
Exhibition
(tent in front of CAB)
Apéro
Welcome
You can sign-in, grab your goodie bag and a coffee starting from 8:30 am. By 9:30, you should be ready for the opening ceremony and a talk by our rector.
Opening Ceremony
Keynote
Sarah Springman
Technical Computer Science Track
Computer Science in Engineering Track
Entrepreneurship Track
VIScon General
Food
Lightning Talk
Workshop
Advanced Analytics for Power Grids
BKW
All Code Sucks
Beekeeper
Pricing Climate Change For Investors
Carbon Delta
A Guide to Mobile Location Data
FAIRTIQ
Esri
Scewo
SysSec
IoT in Practice: Swiss Success Stories
Ergon
Visual-Inertial SLAM: From Flying Robots to Virtual Worlds
Facebook
The Humans in the Loop
GetYourGuide
Hello World! with HoloLens 2
Microsoft
unit8
ESA BIC
The Good, the Bad and the Cyber
InfoGuard
Automatic Slide Layout
think-cell
Thriving in CS as an „outsider"... and Staying Happy!
EBP
From Data to Forecast
unit8
My own, custom Kafka Cluster in 60 seconds
ipt
SCION Future Internet
SCION
Virtual Reality on Oculus Go
Accenture
Enzian: a Research Computer
Prof. T. Roscoe
Machine Learning in Web App Security
Airlock
How the Cloud Evolves
Swisscom
Graph-Based ML for Health Care
Oracle
Millennials are rewriting the Swiss IT Landscape
ipt
When Sh!t Hits the Fan
Oneconsult
From Research Code to Industry Grade with SCION
Anapaya Systems
Talos, the Deep Learning Solution of Credit Suisse
Credit Suisse
Design Thinking
tism
From Zero to Singularity - Designing the AI That Humans Need
IBM
Defending against Wi-Fi Hacks
Zühlke
Implementing a Privacy-Compliant Software Solution
Starmind
Experiencing Web of Things
Siemens
Exploring Graph Analytics and Visualization with Oracle Technologies
Oracle
Container Orchestration with Kubernetes
Beekeeper
Site Reliability Engineering at Google
Google
Why you should care about your internet connected toaster
Redguard
Vision & AI for Sports Broadcasting
Vizrt
Visual Inertial System for 3D Laser Scanners
Leica Geosystems
Closing Ceremony
Lightning Talks
Esri Collaboration Between Architects and Software Engineers
Scewo From Scalevo to Scewo Bro
SysSec Do You Need a Blockchain?
unit8 From a Start-Up Diary: Dealing With Uncertainty
ESA BIC Launch Your Startup In Space

Floor plan

G Floor CAB



The Exhibition takes place in a large tent in front of the CAB building.

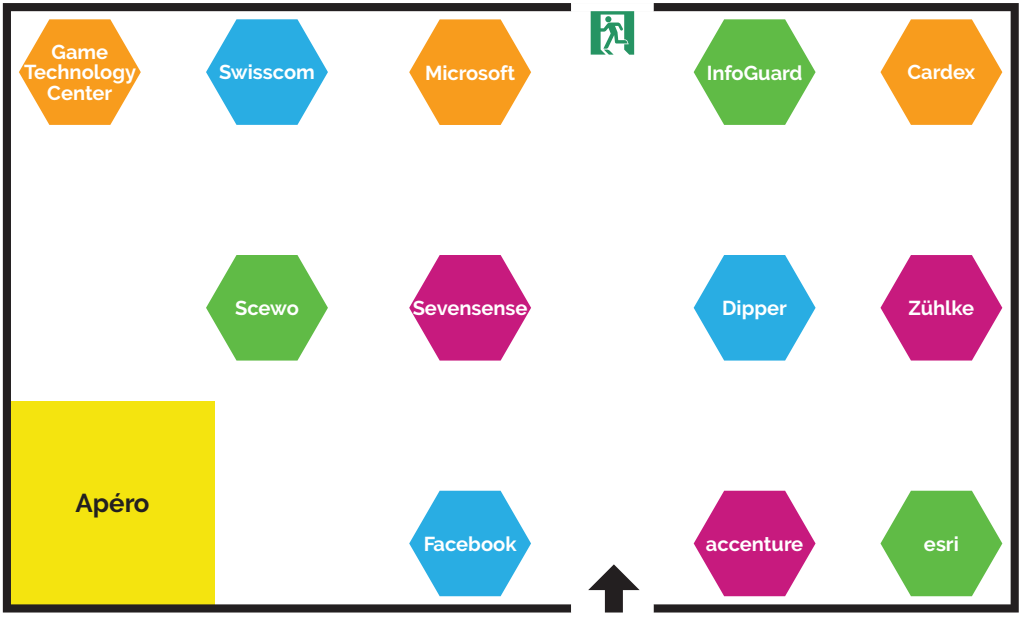
Some workshops will take place one floor up in the rooms H 52 and H 53.

Visit our photo booth to take a picture together with your friends!

The Apéro will take place in front of the CAB building and on the H floor.

Food and beverages will be available throughout the day on floor H ("H" as in "Hungry")
Also, in case you are in a hurry, you will find snacks and drinks on floor G as well.

Exhibition Plan



Accenture
Various demos around IoT, Augmented Reality and AI

InfoGuard
Try out our Cyber Security Tools and learn lockpicking

Cardex
Training simulation for minimal invasive heart surgery

Microsoft
Get immersed with the HoloLens 2 live demo

Dipper
A diving airplane

Scewo
A self-balancing wheelchair

esri
CityEngine VR Experience for Urban Planning

Sevensense
Software and algorithms for autonomous mobile robots

Facebook
Try out the Oculus Quest

Swisscom
Meet the robot "Pepper"

Game Technology Center
Gaming Lounge

Zühlke
Mixed Reality use case

Food

Breakfast 8:15 - 9:30

After registering, feel free to grab a drink and something to eat from the breakfast buffet.

Lunch 11:30 - 14:00

We offer two possibilities to accommodate your needs (and tastes of course)

Option 1

If you wish to take your time and enjoy a warm meal then go to food&lab on the H floor

Zürcher Geschnetzeltes (pork or seitan) + green salad & dessert

Option 2

We also have a take-away offer that you can eat while listening!

Various sandwiches and salads you can choose from (+ dessert)

For organizational reasons, we ask you to stick to the lunch option that you specified when registering.

Apéro 18:00 - 19:30

You are welcome to stick around after the talks to chill out, to visit the Exhibition or to do some networking. The Apéro will take place in the tent in front of the CAB building.

Most of the food and beverages will be available throughout the day on floor H ("H" as in "Hungry"), but we will make sure that you will find some snacks and drinks on floor G as well, in case you are in a hurry.

Opening

Yves Brise

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yvesbrise

Yves is an ETH Alumnus and Associate Partner at ipt AG. He received his PhD in Prof. Dr. Emo Welzl's group of Combinatorial Algorithms working on quadratic optimization problems and generalisations thereof. After finishing his PhD in 2012, he went to work for the Swiss based IT service provider ipt in the private sector. He has been working as a consultant for large Swiss companies such as SBB, Swisscom, Helsana, Helvetia, Postfinance. His main area of work is bringing AI- and data-driven decisions to those enterprises.

Keynote

Sarah Springman

Sarah Springman has been Full Professor for Geotechnical Engineering at ETH Zurich since January 1997 and Rector of the university since January 2015. She studied engineering sciences at Cambridge University.

She then worked for five years as a civil engineer on several geotechnical projects in England, Fiji, and Australia before returning to Cambridge, where she earned her PhD in soil mechanics in 1989 and began her academic career as a lecturer.

She engaged from the beginning with computer aided learning, which she advanced deliberately through her time at ETH Zurich.

Her main research interests are soil-structure interaction and the geotechnical aspects of natural hazards.

Professor Springman has supervised two dozen doctoral students and tried to inspire many young women to take up engineering studies and has been active in publishing research, giving continuing education courses and keynote lectures and engaging in various forms of scientific service.

She received honorary Doctor of Science degrees from the University of Bath in 2013, from Berne University in 2016, from The University of Sheffield and The University of Wollongong in 2018. As Rector of ETH Zurich, and within the Executive Board, she is responsible for education. She is in charge of admissions to study programmes at all levels and for the organisation and management of study-related matters. She particularly enjoys energetic exchanges with ETH Zurich's dynamic students.

ETH zürich

Closing

Roman Hugelshofer

Roman Hugelshofer has been engaged in the security of critical applications and identities for 15 years and knows the challenges and goals of companies in digitisation. He believes that digital processes can be accelerated with new security measures. Protecting corporate or customer data is one of the most important tasks for companies on their way to digital transformation. He is the Managing Director of the Airlock® Secure Access Hub, a globally revered security product by Ergon Informatik AG.

AIRLOCK®
SECURE ACCESS HUB

Talks

- Technical Computer Science Track
- Computer Science in Engineering Track
- Entrepreneurship Track

Advanced Analytics for Power Grids

Today we are experiencing a digital revolution; almost all different types of business are being disrupted through new solutions based on the analysis of huge amounts of data. This disruption is also reaching the energy sector, but for traditional Networks Operators it is technically and culturally challenging to implement these new solutions. Based on these challenges, four years ago we created a cross-functional team that aims to develop Network Intelligence based on open source and standards to deliver highly customized solutions for a more efficient, reliable & safe power grid through Advanced Data Analytics.

You'll learn about: applying big data- and geo-technologies to analyze power grids, building the digital twin (cyber-physical system) of a power grid by transforming the available grid network data into a common data model to improve compatibility with multiple toolsets of modern analytics, using data science, machine learning & AI to change engineering work in a traditional, industrial environment. A challenge to develop and apply solutions of modern analytics within a traditional company.

Raffael Hilber

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Raffael Hilber received a M.Sc. degree from ETH in 2002 and an EMBA in Management of Technology from the University of Fribourg (iimt) in 2019. Together with a team of project managers, data scientists and data engineers, he initiates, develops and runs digital solutions for BKW's grid division. Before joining BKW in 2013, he was in the management team of a start-up within the Axon Active Group and responsible for analytics and projects.

Yamshid Farhat

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yamshidfarhat

Yamshid Farhat received his M.Sc. degree from the Polytechnic University of Catalonia in Energy Engineering focusing on the Electric System. He worked for his Master Thesis at the Aalborg University in the field of Intelligent Control of DER for Microgrids. He joined BKW's Smart Grid Engineering department in 2013 with the focus on the development of innovative products and concepts for the Distribution Network in order to allow higher penetration of renewable energies while reducing network investments and increase the quality of supply. Nowadays, as a Grid Analytics Expert, he develops new tools for a more efficient planning and operation of the distribution grid.

BKW

All Code Sucks

Spend any amount of time in the Software Engineering industry, and you will know: all code sucks. People take shortcuts, frameworks get outdated, old code is haphazardly adapted to support a new feature. The quick dirty fix is chosen before the redesign that would solve a fundamental problem.

But does it really have to be this way?

To keep your code base clean takes effort. It requires an understanding of why things get bad, and what can be done to prevent it. This talk explores the pitfalls of code maintenance, discusses counter-measures and best practices, and tries to give an insight into the challenges of maintaining a large code base.

Barnabas Südy

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Barnabas has been a Java developer working at numerous startups for over 10 years before joining Beekeeper and entering the world of not-statically-typed languages. He likes working in small, efficient teams and seeks to constantly improve the development cycle. As a Tech Lead at Beekeeper, he maintains such a team and he is not afraid to make changes to enable everyone to work as efficiently as possible.

Silvio Heuberger

silvio.heuberger
@beekeeper.io

A developer with 10+ years of experience in building applications with a heart for mechanical keyboards, music and clean well-tested code. After studying at HSR Rapperswil, he spent two years teaching students the basics of programming and concepts of software engineering. After that he joined Ergon AG to deliver multiple successful projects to production for clients in both the telecom and banking industry. After a short hiatus from professional software engineering, he joined Beekeeper in 2018 and is now leading a team of engineers.

BEEKEEPER

Pricing Climate Change for Investors

The goal of this presentation is to share with you first-hand experience of a start-up on the intersection of Climate Change and Fintech. Since 2 of the 3 co-founders hold a Ph.D. from the ETH, and multiple colleagues also graduated from the ETH, our experience might inspire you in your own endeavours and give insight into how the development of a start-up based in Zurich might develop. For that purpose, the presentation is structured in the following 3 main parts.

Dr. Oliver Marchand

contact@carbon-delta.com

oliver-marchand

carbon-delta

Oliver Marchand is the founder and CEO of CARBON DELTA. Prior to this he spent 9 years with Fisch Asset Management as Head IT. In that position he was leading a team that was responsible for all IT operations and development of the in-house portfolio management system. Moreover, he has worked as a researcher in weather forecasting for almost a decade. At various weather services he worked as a researcher and did fun stuff like using supercomputers, integrating new wind profiler data and developing a thunderstorm warning systems. He holds a Ph.D. in Computer Science from the ETH Zurich.

Firstly [5 min], you will receive a brief introduction to the company Carbon Delta. I will lay out our main cornerstones and milestones, give an overview over our development over the last 4 years, and explain our team development.

Secondly [10 min], I will give you an introduction to our main product we developed: Climate Value-at-Risk. I will elaborate on how we developed our methodology over time, what priorities we had to set, and how we overcame various difficulties. In addition, the role of our colleagues with computer science background in the development of the model will be explained as well.

Thirdly [30 min], I would like to share with you our so-called start-up experience and answer any open questions and engage in a discussion. I will share advice and tips on various issues we encountered and experienced as a young startup in Fintech based in Switzerland. This section will focus on aspects such as:

- Early problems and opportunities
- How to raise funds and convince potential investors?
- How to attract clients and sell your product to them?
- How to find and retain an excellent and dedicated team
- Factors determining how we got to where we are.

Ultimately, we will engage in a discussion on any discussed as well as unmentioned issues and questions

CARBON DELTA

G59 10:40 11:35

A Guide to Mobile Location Data

FAIRTIQ built the first hardware-free solution for public transport ticketing in Switzerland based on the Check-In — Check-Out principle. Users can check-in and receive a valid ticket with a single swipe in the app, and the best ticket is computed automatically at the end of the trip. In the spring of 2018, FAIRTIQ became available across the whole Switzerland. We now also have ongoing pilot projects in Austria, Germany and the UK.

While developing and operating our product, we have collected many insights building systems that work with mobile location and other sensor data. Working with sensor data is always a challenge. One must answer questions such is the solution robust enough for a variety of inputs? Does it need a constant stream of new data to make improvements? And what metrics need to be implemented to ensure the high quality of the solution?

FAIRTIQ

This talk focuses on guidelines for building robust systems to process mobile location, activity and other sensor data and monitor their performance. We also discuss the design choices for data collection and data annotation processes, and how they affect the further development of the system.

Dr. Roman Prokofyev

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rprokofyev

Dr. Roman Prokofyev is a Co-founder and Chief Scientist at FAIRTIQ, a mobile ticketing solution for public transport. He designed and developed the technical solution that transforms sensor signals from mobile devices into public transport trips as a part of FAIRTIQ functionality. He now leads a team of research engineers that work on improving and extending the technical functionality of the solution. He holds a PhD degree in Computer Science from the University of Fribourg, Switzerland, where he worked on applied machine learning problems under the supervision of Prof. Philippe Cudré-Mauroux. Dr. Prokofyev obtained BSc and MSc degrees in Applied Mathematics and Physics from the Moscow Institute of Physics and Technology.

Ioanna Mitropoulou

TFabricius@esri.com

Ioanna Mitropoulou is an architect with an interest in computational design, computer graphics, urban design and digital fabrication. She works as a designer in the XR team at the ESRI R&D Centre in Zurich. Ioanna received her Master degree in Architecture from the NTUA school of Architecture in Athens in 2017, and the Advanced Masters in Digital Fabrication from ETH Zurich in 2018.

At the Exhibition, you can experience our CityEngine in a virtual reality demo

esri
THE SCIENCE OF WHERE™

Collaboration between architects and software engineers: Potential and opportunities for computational design workflows

The shift in architectural practice towards workflows that use computation as an integral part from conception to realisation of projects reveals new creative potential. In this context, the symbiosis and collaboration of architects / designers and software engineers becomes necessary. Software engineers are key actors in empowering architectural visions by developing the necessary tools. We present a case study of an urban design project carried out in ESRI R&D Zurich from first design steps to high-quality real-time visualisation, carried out by multi-disciplinary team and example of workflows that combine computational and design thinking.

From Scalevo to Scewo Bro

Scewo is an ETH Spinoff that develops an electric stair-climbing wheelchair. It balances on two big wheels to drive around on even ground and it has a set of tracks to climb over obstacles. The device is very software heavy and allows for a lot of automation. With the Scewo Bro want to sent a new standard in the wheelchair industry. In this talk you will hear about how it all started and where we are now.

Bernhard Winter

Founder and CEO of Scewo AG. We are an ETH Spinoff and are developing a stair climbing electric wheelchair.

Visit us at the Exhibition for a live demo of our wheelchair

scewo

Karl Wüst

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Karl is a research assistant and PhD Student in the System Security Group at ETH Zurich since November 2016. Previously, he received a Masters Degree from ETH Zurich in Computer Science with a focus on Information Security. His main research interest is blockchain technology, with a focus on security and privacy.

Do you need a Blockchain?

Blockchain is being praised as a technological innovation which allows to revolutionize how society trades and interacts. This reputation is in particular attributable to its properties of allowing mutually mistrusting entities to exchange financial value and interact without relying on a trusted third party. A blockchain moreover provides an integrity protected data storage and allows to provide process transparency. However, for many use cases, there are simpler and more efficient solutions. We will talk about a methodology to decide whether a blockchain is the appropriate technical solution for a problem and look at some example use cases.

DINFK

Dr. sc. techn. Michael Schröder

michael.schroeder@ergon.ch

Dr. Michael Schröder is Head of Consulting at Ergon in Zürich. For more than 16 years, he is active in consulting at the interface of business and IT. In this time, he has helped numerous customers in various industries elaborate strategies, architectures and concepts. His passion is helping customers gain a competitive advantage with digital transformation and cutting-edge innovation technologies such as AI, cloud, and IoT. His PhD at ETH Zürich focused on Bayesian techniques for the unsupervised/supervised extraction of image content from large remote sensing image archives - precisely what is a number one innovation topic today: «big data»/«AI»

IoT in Practice: Swiss Success Stories

In this talk, we show how three of our customers leverage the Internet of Things to gain competitive advantage: Coop turned their inventory management into real-time, Bossard provides smart logistics for factories, and Belimo devices are now part of an IoT ecosystem that enables novel use cases. We present practical examples of the challenges we encountered and outline the technical solutions.

ergon

Dr. Christian Forster

christian.forster@oculus.com

Christian Forster obtained his Ph.D.in Computer Science at the University of Zurich for his work on visual-inertial odometry and real-time dense reconstruction. Previously, he received a B.Sc. degree in Mechanical Engineering and a M.Sc. degree in Robotics, Systems and Control at ETH Zurich. In 2016 he co-founded the Zurich Eye project at the Wyss startup accelerator which developed a computer vision hardware and software system that enabled robots to localize precisely in indoor environments. The Zurich Eye project was later acquired by Facebook to establish the company's engineering office in Zurich. At Facebook, Christian has been contributing to the Oculus Insight technology which enables for the first time fully untethered virtual reality headset and controller tracking and which is being shipped in the latest Oculus Quest and Rift-S VR headsets. Today, Christian is a technical lead manager in computer vision working on the future of Oculus Insight technology.

Visual-Inertial SLAM: From Flying Robots to Virtual Worlds

Visual-Inertial SLAM ("Simultaneous Localization and Mapping") is a technology with major contributions from several research labs at ETH and UZH over the last decade. This technology enables machines to localize similar to GPS but much more precisely. This talk starts with an introduction to the technology and highlights some of my personal research contributions at UZH where we used Visual-Inertial SLAM to enable flying robots to navigate in indoor spaces. Afterwards, I will give some insights in how we productized this technology at Facebook for the Oculus Quest virtual reality headset.

You can try the Oculus Quest at our booth in the Exhibition tent

G59 11:45 12:40

Mathieu Bastian

mathieu.bastian
@getyourguide.com

Mathieu currently leads the Machine Learning team at GetYourGuide in Berlin. The company is the leading tours & activities startup with a recent Series E funding of $484M. At GetYourGuide, Mathieu has built the data team from 2 to 20+ members with expertise ranging from analytics, to big data and machine learning. Formerly an Engineering Manager and Staff Data Scientist at LinkedIn, based in Silicon Valley. At LinkedIn, Mathieu worked on data products such as LinkedIn Skills or Search and relevancy pipelines using Hadoop / MapReduce. Mathieu is also an active open-source contributor and co-founded Gephi, an award-winning large graph visualisation platform. Gephi has been selected a number of times for the Google Summer of Code program and is used in a large number of research fields and industries (more than 4000 citations). Mathieu is originally from France and graduated with a Computer Science degree from the Université de Technologie de Compiègne in 2009.

In this talk we'll learn the various (and sometimes surprising) ways humans interact with Machine learning models. At GetYourGuide, we use Machine Learning to help travellers find and book activities when they travel to a destination, and develop algorithms such as search ranking and recommendations. Through the lens of this particular problem, we'll look at the various ways data produced by humans eventually interact with the algorithms we build.

The Humans in the Loop

Machine Learning algorithms are only as good as the data they are built on. In data science, we tend to emphasise and promote the algorithms but forget to give credit to the data they are built on, and often to the humans generating that data! Directly or indirectly humans influence the products and algorithms we built, and sometimes that explains why things go wrong or not in the direction we expect. Via examples and experiences picked in our own domain, we'll aim to find answers to the following questions:

- What could go wrong? When not to trust humans to train ML models?

- How to take messy user behavior data and build a strong training dataset?

- What techniques can you use to leverage the smallest amount of data possible?

GET YOUR GUIDE

Patrick Misteli

Born in Switzerland, raised in South Africa and moved back to Switzerland to study CS. Outside of my studies I was a Trampoline Coach at ASVZ and was part of the organization committee for Challenge17. I also started a rock/metal band, My Rising Edge, and ended up playing in different venues of Switzerland including ESF and headlining SoNaFe twice. I finished my studies in September 2017 and received a job offer from Microsoft to become a Program Manager in Paris one month later

Hello World! with HoloLens 2

Augmented Reality (AR) has become a buzzword in today's industry. Many of us have seen it on TV, on mobile applications or experienced it in some other form. As an ETH CS graduate I'm always curious how difficult it is to get started with new technology. I'm here to show you how incredibly simple it is to get your first AR app up and running using Microsoft's bleeding edge AR device: the HoloLens 2.

Visit us at the Exhibition to try out the HoloLens 2

Microsoft

G11 13:25 13:40

From a Start-Up Diary: Dealing with Uncertainty

During this talk, we will present a different side of Software Engineer work from an early stage tech start-up.

Instead of coming to work and pick up the most interesting task from a Kanban board, imagine that you are coming to a meeting with an operator of a huge factory who describes you all nuances of their manufacturing process.

New domain means an opportunity to learn something new, but also brings completely new challenges. You need to learn very fast and be able to translate real-life problems into software solutions.

Software engineers deployed to some most exciting customers do not only implement most advanced technology stacks but also implement it on top of one of the most complex data, which they have seen for the first time one week before.

We will share our real-life stories from working with industry clients, insights and best tactics that worked in such uncertain environments.

Michal Rachtan

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michal-rachtan

Michal serves as CTO at Unit8. Unit8 is a Swiss-based startup whose mission is to help traditional industries in Switzerland and Europe in with the adoption of big data and AI technologies.

Before Unit8, Michal worked at Palantir, where he has been leading engineering efforts on various deployments including aerospace, aviation, investment banking and advertising in the US, France, UK, and Switzerland. Michal's true passion is technology and its applications to solving real-life cases. Complex, impactful problems is what makes his heart beat faster.

Unit8™

Cyril Kubr

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Cyril Kubr started his career in asset management and worked in London, Singapore and Hong Kong. Later he joined the team of Impact Hub Zurich and founded three companies. In 2016, Cyril co-launched ESA BIC Switzerland, an incubator focusing on high tech startups. He studied Media Science in Fribourg and Innovation in Oxford.

Launch your Startup in Space

Space: the European Space Agency (ESA) is Europe's gateway to space. Its mission is to shape the development of Europe's space capability and ensure that investment in space continues to deliver benefits to the citizens of Europe and the world.

New Space: shifting focus from making great measurements with expensive satellites to delivering competitive services with limited capex.

Entrepreneurship: the ESA Business Incubation Centre Switzerland offers broad support packages to entrepreneurs and young start-ups for exploiting space systems or technologies to develop their non-space business on earth or using a technology from earth for an application related to space (on multiple application fields such as navigation and positioning, communication techniques, earth observation, materials, processes, signals or robotics).

esa business incubation centre Switzerland

G61 13:05 14:00

Red Team

Nicolas Forster

nicolas.forster@infoguard.ch

Nicolas Forster works since November 2017 as Penetration Tester at InfoGuard AG. He works in the Pen Testing / Red Team which is part of the Consulting division. His work is mainly focused on security assessments of IT infrastructures of various customers. This covers a wide area including web applications, the external perimeter and internal networks etc.

Blue Team

Michael Kurth

michael.kurth@infoguard.ch

Michael Kurth works since February 2017 as Cyber Security Analyst at InfoGuard AG. He works in the Investigations & Intelligence team which is part of the Cyber Defence Center. His work is mainly focused on Incident Response, i.e. investigate customer's security breaches or cyber attacks.

The Good, The Bad And The Cyber

The talk should highlight possible attack paths usually taken by an advanced persistence threat (APT) during an ongoing attack. Additionally, we demonstrate the capabilities of the defending side. The talk is structured in a dialog between Red Team (Offensive) and Blue Team (Defensive) member of InfoGuard AG. We will discuss various possible attack scenarios along the Martin Lockheed Cyber Kill Chain and how to detect and analyse them.

Test your lockpicking skills and try out security tools at our Exhibition booth

InfoGuard
SWISS CYBER SECURITY

Automatic Slide Layout

Sebastian Theophil

think-cell

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I studied Computer Science in Berlin and Toulouse, and afterwards returned to Humboldt-University Berlin to receive my PhD in Computer Science. I have been working at think-cell Software since its beginnings in 2002, first as a student, now as a Senior Software Engineer. In these years, I have worked on numerous projects: I developed parts of the slide layout engine as part of my PhD, and in the last few years I have ported our software to macOS. At different times I have developed new algorithms, designed user interfaces, and reverse-engineered macOS, Windows, and Office. I have programmed in C++, Python, Typescript, and Objective-C, and have a passive command of x86 Assembly.

think-cell

Since Microsoft PowerPoint's release in 1987, the process of creating slides has remained essentially unchanged. Every day, millions of users waste much of their time pushing text boxes around to create legible, good-looking slide layouts. It would be very useful to have an interactive, easy-to-use tool that could automatically perform most of those layout tasks. This is a hard problem to solve for several reasons:

1. We need an algorithm that can handle arbitrary user input and produce meaningful results.
2. Its decisions have to be predictable.
3. The problem input is purely geometrical and lacks any semantic information.

We have developed a general-purpose layout algorithm that can solve this kind of problem. We transform the user input into a system of linear constraints and solve a sequence of linear optimization problems: a so-called lexicographic optimization problem. First, we optimize the degree of constraint satisfaction to deal with over-constrainedness and second, we optimize the space distribution. We use the same layout algorithm in our cross-platform UI library to layout resizable dialogs.

The talk will delve into the mathematical details, and it will include a live demonstration of the system.

G59 13:05 14:00

Prerequisites to enter the world of computer science as a non-computer scientist... and stay happy!

Are you interested in computer science and can you imagine working in this field? But you don't know how to gain a foothold in this industry because you didn't study information technology?

On the basis of my daily work as a software developer I will show you what it is like to work as a non-computer scientist in computer science and that many more skills than just programming are needed in professional life. Furthermore, I would like to give you a kind of guideline to find out whether a computer science-related job will make you happy in the long run and what to consider when looking for a job in this area as a non-computer scientist.

Students of computer science are of course also welcome to get an insight into the working environment of informatics.

Sandra Roth

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Sandra studied history, political science and geography in her Bachelor and graduated with a Specialized Master in Remote Sensing at UZH. Fascinated by the possibilities of programming in the evaluation of satellite data, she has increasingly focused on this topic.

During her Master she worked for the Remote Sensing Unit at the Swiss Federal Institute for Forest, Snow and Landscape Research (WSL). But as it had always been clear to her that she was most interested in solving problems in the "real world", she decided to join EBP after completing her studies. As a software developer, she is now involved in various projects for different clients.

EBP

Prof. Timothy Roscoe

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Timothy Roscoe has been a Full Professor in the Systems Group of the Computer Science Department at ETH Zurich since 2007. He works on operating systems, networks, and distributed systems, including the Barrelfish research OS and the Strymon high-performance stream processor for datacenter monitoring. He received a PhD in 1995 from the Computer Laboratory of the University of Cambridge, where he was a principal designer and builder of the Nemesis OS.

After three years working on web-based collaboration systems at a startup in North Carolina, Mothy joined Sprint's Advanced Technology Lab in Burlingame, California in 1998, working on cloud computing and network monitoring, and spent time as an Industrial Fellow at the University of California at Berkeley Computer Science department, working with the Oceanstore project.

He joined Intel Research at Berkeley in April 2002 as a principal architect of PlanetLab, an open, shared platform for developing and deploying planetary-scale services, and worked on Declarative Networking, while becoming an Adjunct Professor at Berkeley.
In September 2006 he spent four months as a visiting researcher in the Embedded and Real-Time Operating Systems group at National ICT Australia in Sydney, which was developing the seL4 microkernel
Since joining ETH Zurich he has also spent time at Microsoft Research, Intel Research, and the University of Washington.

His current research interests include monitoring, modelling, and managing complex enterprise datacenters, system software for modern hardware, and system hardware for modern software. He was named Fellow of the ACM in 2013 for contributions to operating systems and networking research.

ENZIAN

Enzian: a Research Computer

Academic research in rack-scale and datacenter computing today is hampered by lack of hardware. Cloud providers and hardware vendors build custom accelerators, interconnects, and networks for commercially important workloads, but university researchers are stuck with commodity, off-the-shelf parts.

Enzian is a series research computer being developed at ETH Zurich (in collaboration with Cavium and Xilinx) to tackle this problem. By providing a powerful and flexible platform for computer systems research, Enzian aims to enable more relevant and far-reaching work on future compute platforms.

An Enzian board consists of a server-class ARMv8 SoC tightly coupled and cache-coherent with a large FPGA (eliminating PCIe), with about 0.5 TB DDR4 and nearly 500 Gb/s of network I/O either to the CPU (over Ethernet) or directly to the FPGA (potentially over custom protocols). Enzian runs both Barrelfish and Linux operating systems. Many Enzian boards can be connected in a rack-scale machine (either with or without a discrete switch) and the design is intended to allow many different research use-cases: zero-overhead run-time verification of software invariants, novel inter-connect protocols for remote memory access, hardware enforcement of access control in a large machine, high-performance streaming analytics using a combination of software and configurable hardware, and much more.

G61 14:10 14:50

Reto Ischi

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retoischi

Reto Ischi is Team Lead Product Development WAF at Airlock and has been involved in information security and software engineering for over 18 years. His responsibilities include security consulting and the design and development of product solutions to mitigate web security threats. Reto Ischi holds a Master's degree in Computer Science in Information Security from ETH Zurich. In his studies, he focused on cryptography and theoretical computer science. His passion is in software security and engineering as well as assessing the security of IT systems.

Defeating the Unknown: Machine Learning in Web Application Security

In the continuous arms race between hackers and security vendors in the field of web application security, some suppliers promise that machine learning is the next Swiss Army Knife to defend against web security threats. As a Swiss vendor of the web application firewall Airlock, we analyzed machine learning-based techniques to detect web attacks. Our proof of concept with productive web traffic shows that machine learning is useful to detect certain threats that cannot be well described by predefined static rules. On the flip side, the approach brings new operational challenges. In this talk, I will present our ideas, experience and results of the proof of concept.

AIRLOCK®
SECURE ACCESS HUB

How the Cloud evolves: Developments and Technological Trends in Practice

Driven by digitalization, many companies have started their journey to the cloud. Cloud Computing promises to simplify IT operation at a much lower cost. Can these promises be fulfilled in practice? In this presentation we would like to look behind the curtain of a big Swiss cloud provider and elaborate on recent technological developments.

From legacy workloads to cloud native applications: Many companies have built over time complex application ecosystems that are difficult to maintain and manage. To address these challenges, we will highlight the right use of cloud services for different application architectures. As part of this journey, we will cover a variety of alternative building blocks covering virtual machines, orchestrated containers or fully managed application platforms.

Technological trends becoming reality: With the advent of new technologies such as IoT, 5G and edge computing the cloud landscape is going through an evolution. We will discuss what innovations and use-cases result from these new technologies and dive into the technical and architectural consequences.

Simon Loesing

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simon-loesing

Simon is a Cloud Solution Architect at Swisscom. Working in cross-disciplinary agile teams he is developing technical strategies, solution architectures and is actively involved in the implementation of the latter. Before joining Swisscom, Simon completed a PhD in the Systems Group at ETH on scalable and elastic database architectures.

swisscom

At the Exhibition, you can see another trend becoming reality: A humanoid robot that can recognize emotions and gestures

G59 14:10 14:50

Rhicheek Patra

Rhicheek Patra is a Senior Researcher at Oracle Labs. Before joining Oracle Labs, he completed his PhD from EPFL in Machine Learning and Online Privacy.

Towards Graph-based Machine Learning for Automated Health Care Services

We tackle the problem of predicting diagnoses for patients staying in critical care units. To this end, we employ healthcare data of 46 thousand patients with multiple admissions per patient. We consider multiple events as features per admission like fluids (e.g., insulin), lab tests (e.g., pH) and drugs (e.g., aspirin) which represent the evolving state of an admission. We employ graph data model to integrate additional information, per admission, from external sources (e.g., disease-symptom relations) and feed this enriched admission to a Recurrent Neural Network to predict diagnoses. Our approach shows significant results due to the relational information from previous admissions (connected via the external disease-symptom information).

ORACLE Labs

15:00 15:40 G11

Millennials are rewriting the Swiss IT landscape

What do you need to keep in mind when developing software for us, the millennials? We are becoming the most valued customers - but how can the business world connect with us? Why do Swiss companies constantly fail to deliver products we want?

As of 2019, millennials are well into adulthood and make up a large portion of lucrative (tech) consumers. Unfortunately, many Swiss companies are still unable to appeal to millennials as their customers and fulfil their needs. The current Swiss IT Landscape needs reshaping and new technologies to keep up with customer demands and international competition.

Daniel Yu

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yu-daniel

Daniel Yu is an ETH Alumnus and Consultant of ipt. He holds a master's degree in computer science from the ETH Zurich and specialised in his studies on Machine Learning. During his studies he was co-founder for a web 2.0 startup during its alpha phase, being in charge of the product development aspects of the projects. He now helps companies taking the next step towards self-learning systems and data-driven applications.

Our talk will analyze some of the strategies used by successful players and compare them to the big companies in their respective fields. We will put the side of the technical aspect by side with the expectation and needs of millennials. Let's discuss how you can build disrupting technologies and services the Swiss market desperately needs. Therefore, giving you a perfect insight on what to tackle next and bring your potential start-up or business to the next level.

Come by if we piqued your interest - we look forward to seeing you there!

Abhimanyu Patel

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abhimanyupatel

Abhimanyu Patel is an ETH Alumnus that joined ipt as a Consultant in March of 2019. He holds a master's degree in Computer Science with a focus in Information Systems. During his studies he was an active part of VIS and also helped organize last year's inaugural VIScon. Combining his love for technology in the big data and data engineering space as well as working in teams to tackle some of the most interesting IT projects in Switzerland lead him to ipt.

G61 15:00 15:40

Gregor Wegberg

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groggi

After graduating from ETH Zurich with a master's degree in computer science, Gregor Wegberg joined Oneconsult in 2017 as a penetration tester and security consultant. Today, his team is responsible for the automation of security services. Gregor is a security consultant and a member of the Oneconsult International AG Computer Security Incident Response Team (OCINT-CSIRT, a FIRST member).
I am more than happy to tell you all I know about starting out as an information security consultant and penetration tester, what types of roles there are in information security, even more details in regard to digital forensics and incident response (DFIR), how security can be part of a Dev(Sec)Ops or agile environment and why I currently hold nine professional certifications and find them useful. Feel free to approach me at the symposium or contact me via one of the many available communication channels.

When Sh!t Hits the Fan

Assume breach is a way of thinking about your information and IT security strategy. It is the assumption that your organization has already been successfully attacked by an adversary or could easily be compromised by a dedicated attacker. Well, what happens if your organization is successfully attacked? This talk will give you the theoretical basics and practical recommendations how to prepare for and resolve such an information security incident. A few anecdotes will make sure that you will laugh, cry and facepalm at the same time. If you are interested in how to improve an information security and IT strategy by thinking about the worst day at work, or you are interested in working as a digital forensics and incident response (DFIR) professional, this talk is for you. No prior knowledge required.

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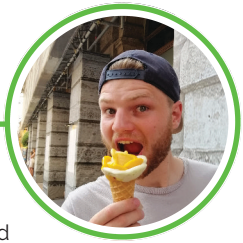
the cyber security experts

Lukas Bischofberger

bischofberger@anapaya.net

Lukas Bischofberger is an ETH Alumnus, former active VIS member, software engineer and resident hipster at Anapaya Systems. At the young start up, he initially took on the task of optimizing the developer experience. Among others, he has been the main driving force in adopting a solid CI architecture, and building a hermetic testing environment based on containerization. Nowadays, his focus has shifted to developing more customer facing technologies.

Dominik Roos



roos@anapaya.net

is an ETH Alumnus, software engineer and passionate gopher at Anapaya Systems. His focus is on the core infrastructure services, which entails re-architecturing the inherited research project into something production ready. As a proponent of good coding practices, he occasionally pesters his fellow Anapayas during code reviews about style, test coverage and modularity.

anapaya systems

From research code to industry grade with SCION

What started as a research project is now trying to take over the world!

At Anapaya Systems, we are leveraging the SCION Internet architecture to offer next-generation Internet services to our customers. This entails further developing and transforming the researchy codebase, and building a product that can survive in the real world. In this talk we will go over the patterns that have helped us reduce the inherited pain points and improve the developer experience. We will show some steps that need to be taken to deploy networking software into the wild, and also discuss what tooling and processes have shown to be effective and where the future might take us.

G59 15:00 15:40

Talos, the Deep Learning Solution of Credit Suisse

Credit Suisse has implemented a Deep Learning solution "Talos" that is used in production in the eCommunications surveillance space. This solution operates on the unstructured data space and leverages GPU technology. Our solution reduces the noise and false positives by leveraging cutting-edge Natural Language Processing techniques to surface potential malicious activity.

Talos works on top of a Big Data analytics platform that ingests and processes millions of eComms a day. We run the data against behavioural models, to generate signals that indicate potential misconduct and market abuse for investigation. The surveillance platform is used for supervisory and compliance review to protect the firm's reputation.

Talos enables supervisors to prioritize their attention on alerts that require deeper investigation, and act on potential misconduct activities quicker.

CREDIT SUISSE

In more technical detail, the first Talos model ("Talos 1.0") has been a Convolutional Long Short-term Memory architecture utilizing internal word embeddings, which enabled us to reduce false positives by 37%. The second model of Talos ("Talos 2.0") has been using BERT language model in a Feedforward Neural Network architecture, which correctly identifies 47% of false positives. For both models, we have implemented a GPU architecture that led to do model training much faster compared to CPU.

Angeliki Davourli

My name is Angeliki and I am a Data Scientist/ Machine Learning Engineer at Credit Suisse, providing innovative AI solutions across the bank. I graduated with an MEng in Electrical and Computer Engineering from National Technical University of Athens and then I started my career as Software Engineer. After 2 years of working experience, I decided to grow more in the direction of Artificial Intelligence by completing another MSc at the University of Edinburgh. The combination of my academic background and professional experience enables me to have a good overview of the full technology stack, from hardware description and assembly languages up to scripting languages and machine learning frameworks.

Romeo Kienzler

romeokienzler

Romeo is a Human working for the IBM Center for Open Source Data and AI Technologies in San Fransisco. He is a big fan of Open Source, data privacy and decentralisation. He creates AI systems which humans really need.

IBM

From Zero to Singularity - Designing the AI that humans need

We have tried many things. All of those work to a certain extent. Some make us stronger, some make us faster, some make us sick. The ability to think always has been a major challenge. Consciousness is the state or quality of awareness or of being aware of an external object or something within oneself. At least this is the definition on wikipedia. Brute-force state space exploration in chess? Attacking a knowledge base with grammar? Blue Gene and Watson did the job. Artificial neural tissue running In Silico is the latest craze - outperforming human baseline in various cognitive tasks. Let's extrapolate the latest developments in that space and project. Even conservatively minded folks will notice that things can get out of control. Actually they are already. Or aren't they? In this talk we'll cover state of the art AI in robotics and decision making to find out where we are - between zero and singularity. And what steps need to be done to design an AI that humans need. In an open, decentralized, interconnected and unbiased way. May the GeForce be with you!

Donat Hauser

Donat Hauser is a software architect and security enthusiast focused on building secure software. As a full stack developer he has successfully designed and implemented numerous security-critical software applications for small and large enterprises. He holds a Master's Degree in Computer Science from ETH and a MAS in Information Security.

Patrick Steger

Patrick is a software engineer with special interest in application security. He loves investigating security borders, digging in security controls and finding ways to defend applications from attacks. He was involved in the security assessment of many software solutions, including a few of national public interest. Patrick holds a MAS in information security and is a CISSP (certified information systems security professional) and CSSP (certified cloud security professional).

Meet us at the Exhibition for a live demo of an mixed-reality application with the HoloLens

Defending against Wi-Fi Hacks

The man-in-the-middle poses a real security threat to users of ubiquitous communication devices such as notebooks and smartphones.

In this talk we assume the role of an attacker and demonstrate the capabilities of an inexpensive, off-the-shelf rogue access point to illustrate how man-in-the middle attacks are executed against unaware victims.

We then change roles and explain how users and application developers can defend against these types of attacks to protect the confidentiality and integrity of the user's data.

zühlke
empowering ideas

15:50 16:45 G51

Implementing a privacy-compliant software - practical experience

What you should pay attention to when implementing software that involves processing of personal data.

Many cloud services nowadays collect and process a lot of photos, documents, ratings and other personal data. Data protection has changed a lot over the course of the past 2 years - not only in Europe. It became a tough job for programmers to build the software and stay compliant.

Do you plan to start a next generation of a Telegram, Quora, Facebook or alike? Or do you plan to join a company where you would work with personal data? If yes, we hope to share valuable knowledge with you regarding how and when you can collect personal data, what you can and what you cannot do with it and what may happen if the topic of data protection gets forgotten.

In this talk, we will give you a brief overview about:
- What has changed in Europe in the past 2 years in the area of data protection?
- How does Switzerland fit into this picture?

Then we will focus on:
- Which types of personal data do exist?
- How are you allowed to process this data in your software?
- What is profiling and when is it allowed?
- When and how should you anonymise the data?
- Can you keep the data forever? If not, when should you delete it?
- What you should notify your users about and when?

We will support these topics with the newest examples that popped up in the media in the recent months.

Ilya Vasilenko

Certified compliance and data protection professional with computer science background (ETH Zurich). Additional interests and skills lay in areas of natural language processing, big data, security and software development planning.

STARMIND

G59 15:50 16:45

Ganesh Ramanathan

Ganesh is a software architect in the field of building automation systems and works at the Global Headquarters of Siemens Smart Infrastructure in Zug, Switzerland. The subject of his master's thesis at ETH Zurich on using Web of Things in the automation systems domain resulted in one of the largest projects involving semantic technologies at Siemens Smart Infrastructure.

Experiencing Web of Things

One of the challenges faced by implementations of Internet of Things is that they lack interoperability. Systems turn out to be vertical silos of applications which are tightly-coupled not only because of communication interfaces, but also due implicit semantic knowledge of the things themselves. In this talk we will share the challenges faced by the automation industry in dealing with a broad spectrum of technologies in situations where interoperability is crucial.

The talk will give a brief introduction to the problems in the field of Building Automation in specific, and then go on to explain how the paradigms behind Web of Things promise to offer a solution. We then examine some real-life problems faced when dealing legacy systems. Finally we will highlight the potential research areas in this field.

SIEMENS
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Site Reliability Engineering at Google

What is Site Reliability Engineering? It's all about scale! Things fail all the time: Machines fail, switches fail, fibers fail, power fails. How can we build reliable large scale systems that can survive even large scale disasters?

It is all about managing risk. Hope is not a strategy! This talk is about how we implement distributed and highly-available systems at Google and introduces the SRE principles in general.

This talk is about Site Reliability Engineering at Google and how we apply the SRE principles in practice.

Andy Traber

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Andy studied Electrical Engineering at ETH. After graduating from ETH in 2015, Andy designed CPUs for a number of years, before he joined Google as a Site Reliability Engineer in 2018. He now spends his time ensuring that Google's systems are running reliable.

Google

Alessio Bähler

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Alessio arrived in Zürich from Ticino to study at ETH, where he completed his Bachelor and Master Studies in Computer Science with focus on Software Engineering and Information Security. After working a few months as Research Assistant in the Network Security Group he joined Redguard AG as Security Tester in 2019. His tasks include the security analysis of different systems as well as development of supporting tools and teaching in courses and training seminars.

Why you should care about your internet connected toaster

More and more technologies are becoming part of our daily life and everything is increasingly connected through the Internet. Despite some major incidents lately gained a lot of mediatic attention, security awareness seems to stop at the point where you can say: “But it works!”. Indeed, why should I care if my new Internet-connected toaster has been hacked as long as I can use it? Well, let us show you why...

The goal of this talk is to show the importance of considering security aspects when developing and deploying new technologies. Through real-life examples that span over different engineering fields we'll show how particular poorly engineered or deployed systems have been or could have been misused to wreak havoc in the world.

REDGUARD
SECURING YOUR ASSETS

Visual Inertial System for 3D Laser Scanners

Visual Inertial Odometry (VIO) is a key technology in most augmented reality or autonomous systems. It is the process of determining the position and orientation of a camera and Inertial Measurement Unit (IMU) by analyzing accelerations, angular velocities and images. At Leica Geosystems part of Hexagon, we use VIO for aligning point-clouds captured by our Terrestrial Laser Scanners (TLS). These TLS can record hundreds of scans on a single working day, which makes manual alignment of the point clouds tedious and time consuming. The Leica RTC360 solves this problem seamlessly by computing the pose difference between consecutive scan stations using our own VIO. In this talk you will learn how a VIO algorithm works in one of the most challenging scenarios: A device carried in unknown environment by an unknown person without any constraints on the movement.

Thomas Mörwald

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Thomas Mörwald is Senior Software Engineer and Computer Vision Expert at Leica Geosystems part of Hexagon. His interests involve Visual Inertial Odometry, Visual SLAM, 3D Reconstruction and Sensor Fusion in the field of Computer Vision. He was part in the development of the Visual Inertial System (VIS) for the RTC360 Terrestrial Laser Scanner. Before joining Leica Geosystems AG in 2015, he was Post-Doc at the Automation and Control Institute of the Vienna University of Technology, where he received a PhD in Computer Vision for Robotics in 2013. He published and reviewed articles for CVPR, ICRA, IROS, JVCI, JRTIP, Autonomous Robots, etc. Thomas Mörwald received a Master of Science in Mechatronics from the JKU in Linz in 2008.

HEXAGON | Leica Geosystems

G51 16:55 17:35

Dr. Fabrizio Pece

Dr. Fabrizio Pece currently works as a Software Engineer for Vizrt, Zurich. Prior to joining Vizrt, he was a postdoctoral researcher at ETH Zurich, working with Prof. Otmar Hilliges in the Advanced Interactive Technologies lab. His research focussed on a broad set of topics in the human computer interaction (HCI) and computer vision (CV) fields, with a particular focus on different aspects of virtual and augmented reality, machine learning, mobile interaction and computational user interface design. Fabrizio earned his doctoral degree in the Virtual Environment and Computer Graphics group at University College London (2010-2014), under the supervision of Prof. Jan Kautz. Further, he earned his BSc in Computer Science from Università degli Studi di Roma Torvergata, Italy (2008) and his MSc in Vision and Virtual Environment from University College London, UK (2009). Between June and October 2010 he completed an internship at Disney Research Zurich.

vizrt

Computer Vision and Machine Learning for Sports Broadcasting

In our talk, we will introduce practical aspects related to the development of Viz Eclipse, one of the latest Vizrt's sports broadcast software, which is primarily developed in our Zurich R&D center. Viz Eclipse replaces the field-side advertising boards in football game broadcasts with photo-realistic virtual signage in real-time and throughout live gameplay, allowing rights holders to unlock further revenue by creating unlimited feeds for regionally-tailored marketing. Viz Eclipse combines state of the art computer graphics, vision and machine learning techniques, operates directly on video feeds, thus not requiring any specialized hardware, and seamlessly integrates with existing production pipelines. Among other state of the art computer vision technologies, Viz Eclipse employs a machine learning pipeline which is able to seamlessly key players, officials and other objects placed in front of the field-side advertising boards, to then replace said advertisements with novel virtual signage. Crucially, Viz Eclipse solely rely on live television feeds to produce virtually unlimited streams, and can be applied to any kind of backgrounds, including animated LED boards.

Developing such a complex system poses a variety of practical, as well as design challenges, and in our talk we would like to illustrate some of them. In the first part of our talk we will walk through existing machine learning-based approaches to keying, and show with real examples how these quickly fail when tested "in the wild". We will then show how one can go from a model that works on toy samples, to one that can actually perform well on real world data, illustrating how vanilla research results can actually be lifted to be used in practice. At this stage, critical aspects such as visual quality and real-time performance will be accounted for. In the second part of the talk we will focus on practical aspects of production integration, illustrating some of the challenges one faces when integrating a "lab-ready" system into real broadcasting productions. Finally, we will illustrate how Viz Eclipse integrates with the Viz Engine, one of today's most powerful real-time graphics rendering engines, to finally roll out the virtualized video feeds to various broadcasters.

Workshops

G52 12:50 14:50

From Data to Forecast

There are many domains to which machine learning and deep learning could be applied. We will focus on predicting time series data. Throughout our career at Unit8 we identified that this is one the most common challenge that many industries are facing:

- predicting demand in a car-sharing system
- estimating amount of material required to produce consumer goods in manufacturing
- predicting sales figures in an automotive company

After the workshop, you will get familiar with one of the state of the art approaches like autoregressive approaches including RNNs and LSTM

Krzysiek Styrc

Krzysiek is a Software Engineer at Unit8, a Swiss-based startup whose mission is to help traditional industries in Switzerland and Europe with the adoption of Big Data and AI. Krzysiek has experience in creating software projects in different industries such as investment banking, ad-tech & manufacturing. He thrives on the borderline of software engineering and ML/AI to produce innovative solutions for real-life cases.

Kilian Brandt

Kilian is Software Engineer at Unit8. Unit8 is a Swiss-based startup whose mission is to modernize traditional industries in Switzerland and Europe. Before Unit8 he worked on solving problems related to Computer Vision in Switzerland and Japan, both in academia and industry. He also contributed to making the life of disabled people easier through software solutions while serving Switzerland. He's enthusiastic about the potential of technology in making the world a better place and is not afraid to solve the challenges it implies.

During this workshop, we would like to showcase end to end scenario of time series forecasting.

Data science is a complex domain and one of the fastest-growing right now. Although it is one of many pieces in the process of applying it to real-life problems. We will walk you through the entire path from data analysis, data modeling up to deploying it to production.

Unit8™

Daniel Strebel

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Daniel is an IT Architect at ipt. He graduated from the University of Zurich with a master's degree in computer science. With a background in corporate R&D and as a consultant for emerging technologies, Daniel now advises corporate clients in the areas of cloud and ML. In his spare time, he likes to run, tinker with new technologies and build things.

Jonathan Gan

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jonganej

Jonathan is a ETH alumnus with a Master in Robotics, Systems and Control. During his studies, he was involved as a software engineer in various industrial innovation projects using technologies like AR and machine vision, working with corporate research labs and a Healthtech startup. Currently, as a consultant at ipt, Jon helps enterprises develop big data engineering solutions with cutting edge open source technologies.

My own custom Kafka Cluster in 60 seconds

Event streaming has become one of the dominant integration patterns and drives many of today's modern end-user applications in sectors from finance to mobility. In this hands-on workshop, attendees will learn about cloud-native infrastructures and how they can be used to provision a fully-fledged event-streaming platform. Using the open-source framework Strimzi, we will set up an enterprise-ready Kafka cluster on Kubernetes and demonstrate its use in a real-world use case.

Topics of interest for this workshop include:

• Kubernetes:

Crash course as needed for the scope of the tutorial.

• Kubernetes Operators:

How to automatically deploy Kubernetes components based on declarative configurations.

• Apache Kafka:

Building a Kafka cluster from scratch and understanding the functionality of each component

• Security:

Securing Kafka using sidecar-pods and mutual TLS

H53 13:45 15:45

Juan A. Garcia Pardo

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Juan was born in Valencia, Spain many years ago. He studied at the Universitat Politècnica de València and obtained his MSc in computer science, starting his Ph.D. in machine learning right after. During his studies he managed to teach at two (other) universities in the same city, and worked to help in a variety of projects for different swiss companies, such as Swisscom and Lindt. That is when he discovered a bit of Switzerland, and decided he would not finish his Ph.D. studies but move to work in R&D for Leica Geosystems in Sankt Gallen. He discovered and read about SCION in 2017 and joined the Network Security group at ETH in 2018, to help with this fascinating project. He co-operates SCIONLab.

Giacomo Giulari

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Giacomo is an Electrical Engineer by training with a fascination for all things CS. He is currently a PhD student at the Network Security group at ETH, which he joined after finishing his Master Thesis on next-generation satellite Internet routing. An enthusiast for modeling and simulations, he likes to use these tools both for research and scientific dissemination. His recent interests include satellite networks, quality of service systems for the Internet and medical imaging.

Kamila Součková

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Kamila is an enthusiastic contributor to too many projects. Most recently, she has become involved with the SCION internet architecture, completing her Master's in the NetSec group at ETH by implementing a prototype high-speed SCION router in hardware. Today, she continues to work on SCION, especially in areas related to the data plane, the SCIONLab global research network, and also outreach and communication with SCION contributors outside of ETH. In her free time, she makes sure she has no free time by travelling and teaching CS in a variety of venues.

SCION

SCION Future Internet

Experience the Next Generation Internet Architecture SCION in our workshop. Find the best paths to the destinations; go around undesired ones. Win the competition by coding the best algorithm.

In our VISCon workshop, students not only learn about state-of-the-art research about Path-aware Networks, but get the chance to experience this technology hands-on.

The two hour session starts with a quick overview of SCION, a next-generation Internet architecture developed at ETHZ. We highlight on some of the problems and shortcomings of the current Internet, while showing at the same time how SCION can solve them.

The remaining hour and a half is devoted to a practical, fun competition. Students have to code a client application (python) to communicate with servers deployed in our testing infrastructure. The goal is to solve networking problems such as unavailable routers, extremely low bandwidth, heavy packet loss at the links etc., by leveraging the cutting-edge features of SCION. The more content students are able to get across the network and the fastest, the higher their final score. This game is repeated multiple times, so that they can learn from their mistakes and improve the performance of their application.

To ease the bootstrapping and speed up development, we provide some basic examples of clients. Students can then readily start with the fun problem-solving tasks, while becoming acquainted with the simplified SCION API. In parallel, we set up a simple infrastructure to keep track of the game score, so students can get feedback on how many points they scored in every scenario in real-time.

To participate, Students will have to bring their own laptop, capable of running VirtualBox virtual machines or Docker containers, and the ability to connect to wifi.

The winner (highest score) of the competition will get a SCION-themed prize!! (to be determined). We will reserve around 10 minutes at the end to discuss interesting implementation strategies that emerged during the competition.

SCION

H52 13:45 15:45

Cornelia Scherrer

Cornelia Scherrer is a Software-Engineer. Since 2017 she develops prototypes, PoC's and MvP's using new technologies like Augmented Reality in Accenture's Liquid Studio. She holds a Master of Science in Electrical Engineering and IT from ETH.

Pascal Schütz

Pascal Schütz is part of Accenture's Intelligent Software Engineering group and leading the Liquid Studio in Switzerland – a rapid application development team focused on new technologies to build prototypes and MVP's at speed. Prior Accenture, he co-founded a technology startup in the entertainment industry, worked in consulting and the IT for a large Swiss bank. He graduated in business information technology from the University of Applied Sciences in Zurich and completed graduate classes at Stanford University in California.

Visit us at the Exhibition for various demos around IoT, AR and AI. Perhaps you'd like to get a drink that matches your current mood?

accenture

Virtual Reality on Oculus Go

Oculus Go is a standalone wireless VR headset. It brings experiences to life with high detail, vibrant colours and a wide field of vision. There are many tools available to design scenes for the Oculus Go. We will focus on Unity, the world's leading real-time creation platform. Half of all video games in the world are developed with Unity.

In this workshop you will learn:

- The basics of Unity
- The basics of 3D design
- First coding examples
- Deploy scenes to the Oculus Go

This course is aimed at persons who have no experience with Unity so far.

Pre-requisites: Basic programming-skills

accenture

G57 15:00 17:00

Stephanie van Ophuisen

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stephanie-van-ophuisen-8413a398

Steffi is a Senior Interaction Designer from Zurich, believing that human centered design is the key to an excellent User Experience and product. After graduating in Communication Design at FADK (Frankfurter Academy of Communication and Design) in Frankfurt am Main, she moved to Zurich to start her career in various advertising agencies. She intensified her knowledge for on- and offline campaigns with several advanced trainings in Switzerland and Europe. After 8 years of intense advertising work, she started a new challenge in the IT industry to dive deeper into digital transformation, User Centered Design and technology based topics. Her latest degree is the Certificate of Advanced Studies in Human Computer Interaction Design «Requirements Engineering» (University of Rapperswil).

Daniel Graf

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daniel-graf-151766113

Daniel is a Senior UX Designer from Zurich, believing in power of UX-Design, prototyping and coding. He started his career with an engineering degree from ZHAW Zurich University of Applied Services, increased his knowledge in Business Administration and Project Management (EMBA, ZHAW) and has a Master Degree of Advanced Science in Human Computer Interaction Design (MAS hcid University of Rapperswil and Basel). With over 25 years of experience in software solutions, he drives projects forward, people together and makes users happy. For many years, he worked as contractor and developer with his own company around Zurich. Now he is Senior UX Designer at ti&m, Zurich.

Design Thinking

From the problem to the validated, digital prototype in under two hours! Learn how to create multidisciplinary product ideas and validate ideas!

Be inspired and get to know the interplay of different tools such as Design Thinking, UX and agile approach. In this way, you quickly become innovative, create better solutions and gain a strategic advantage.

ti&m
big ideas. creative technology.

Rhicheek Patra

Rhicheek Patra is a Senior Researcher at Oracle Labs. Before joining Oracle Labs, he completed his PhD from EPFL in Machine Learning and Online Privacy.

Exploring Graph Analytics and Visualization with Oracle Technologies

The objective of this workshop would be to demonstrate the benefits of using Graphs across multiple domains starting with CyberSecurity (e.g., Threat hunting) to Retail (e.g., Recommender Systems). We would leverage technologies developed at Oracle Labs, namely Parallel Graph AnalytiX (PGX), and Oracle Labs DataStudio (OLDS). PGX (https://www.oracle.com/technetwork/oracle-labs/parallel-graph-analytix/overview/index.html) is a toolkit for graph analysis - both running algorithms such as PageRank against graphs, and performing SQL-like pattern-matching against graphs, using the results of algorithmic analysis. On the other hand, OLDS is a JVM-based notebook interface for data analysts built on Apache Zeppelin and Oracle JET with a focus on graph visualization. With the use of these two tools, we will explore multiple graph use-cases in the above-mentioned domains.

ORACLE Labs

G56 15:40 17:40

Container Orchestration with Kubernetes

Docker has revolutionized the way we work at Beekeeper AG. It allows us to easily deploy our software and gives us a strong guarantee that the container images we build and run locally are identical to the ones we deploy to production. However, this is only half the story. When using docker in production you run into a number of problems almost immediately. For example, how do we know our containers are healthy and running? Is the latest version deployed? How can we perform upgrades without impacting our customers?

In order to solve these orchestration issues, Google created Kubernetes, an open-source system for automating deployment, scaling and management of containerized applications. In this workshop we will cover its basic concepts and take you through all the steps you need to follow in order to get your applications running on Kubernetes.

Jason Brownbridge

jason@beekeeper.io

A passionate developer with 10+ years of experience, Jason Brownbridge is a Software Engineer from South Africa with a knack for building infrastructure and a soft spot for startups. Jason began his career as an intern for Amazon EC2, building data analysis and visualization tools. After his stint at one of the world's largest cloud providers, Jason joined the University of Cape Town, delivering lectures to computer science students. He then went on to co-found several startups in South Africa. Jason settled down in Switzerland in 2016 and joined Beekeeper's engineering team, becoming the Head of DevOps in 2018.

If you want to participate, please install the Minikube application: https://kubernetes.io/docs/tasks/tools/install-minikube/

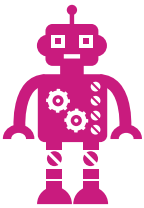
We recommend to use Linux, though all operating systems should work in theory.

BEEKEEPER

Exhibition

15:00 - 19:15
In front of the CAB building

VIScon 2019 - Exhibition



Since VIScon 18 was a huge success, we decided to keep all parts that worked well, but also added a few new things. Completely new for this year is our exhibition: a place where you can actually feel computer science on your fingertips.

In our imagination, this is the perfect playground for students to watch autonomous drones and robots, to immerse themselves in virtual reality, or to explore the various use cases of augmented reality.

The focus of this year's VIScon will be on variety and interdisciplinarity. It enables our students to learn how computer scientists can bridge the gap to other disciplines and how engineers or researchers from a non-computer science background found their way into the IT realm. Therefore, at our exhibition you will find a superb spot to connect the world of computer science with both electrical and mechanical engineering as well as natural sciences.

Mixed Reality Usecase

Zühlke set out to develop HoloLinc, a Mixed Reality Application to revolutionize the sales process of stairlifts. See how it works!

Before the introduction of HoloLinc, staircases at thyssenkrupp were measured manually in a very time consuming and paper-heavy process. The visualization of the final product and the adaptation of the lift to the wishes of the customer were only possible with catalogs, paper, and pencil.

Today, the staircase surveying process looks like this: Immediately upon the first meeting, the employee measures the staircase with HoloLinc through a guided step by step process, and then the customer can customize the stairlift on the iPad. The result is an animated hologram which the customer can see on the iPad or through the HoloLens.

Try it out yourself and learn more about mixed reality solutions in industry.

Game Programming Laboratory

The ETH Game Technology Center (GTC) offers a Master-level course called the Game Programming Laboratory which serves as a capstone to the Computer Science program by reinforcing core computer science concepts and specialized topics in Visual Computing.

Students work in small teams to design, develop, test, and deploy a novel video game from scratch. In addition to technical focus on aspects of game development such as rendering, animation, simulation, physics, and artificial intelligence, the course also cultivates creative thinking and "soft skills" such as team work, effective communication, time management, and leadership. Games developed in the course have been showcased at national and international game conferences and festivals.

This year's winner, "Deep Space Gardening", is a chaotic cooperative multiplayer game. The players slip into the roles of gardeners having the task to produce plants and deliver them to space shuttles that distribute those plants to the planets of the galaxy to recover their ecologic system.

Cyber Security Tools

Red Teaming Tools

Have you ever wondered which animal is the professional Red Teamers best friend? Is it the rubber ducky, the LAN turtle or even the bash bunny? If you want to find out visit our Red Team members at the InfoGuard AG booth. Beside our Red Team zoo you will find various other tools used in our daily business such as a prox mark, a hack RF or similar.

Lockpicking

Have you ever wondered how lock picking works? Check out our booth and find out. We have training locks, which fit for beginners, and locks that even challenge experienced lock pickers. Each student opening a lock wins a little price.

InfoGuard
SWISS CYBER SECURITY

Forensic Tools

The famous hacker collective “Fancy Bear” has attacked again. How does our Incident Response Team react and which tools are used? Visit our booth, have a chat with our Incidence Response/Blue team members, and find out more.

CityEngine VR Experience for Urban Planning

The CityEngine VR Experience is a complete solution for easily creating a premium VR application to explore your 3D city models and urban planning scenarios. It builds on a combination of Esri CityEngine, which is used for data integration, 3D modeling and scenario development, and Unreal Studio (Epic Games' enterprise solution based on Unreal Engine), which then renders the scene in real-time, controls the VR headset and its controllers, and allows for collaborative studies using multiple headsets over the network. The experience comes as a ready-to-use and extensible Unreal Studio project template, from which CityEngine scenes can be easily imported, configured and viewed.

esri
THE SCIENCE OF WHERE

We will showcase our "Boston example" to compliment Ioanna Mitropoulou's talk on "Collaboration between architects and software engineers: Potential and opportunities for computational design workflows".

Various demos around IoT, Augmented Reality and AI

Mood Cocktail

Our mood cocktail machine is our famous example of how IoT and Computer Vision can be combined in a new inspiring way. A user stands in front of the camera, the machine detects its face, visualizes, classifies the emotion and mixes a drink which matches the mood of the person. For each of the four detected emotions (happy, angry, sad, surprised), there are four pre-set drinks consisting of 8 ingredients. Non-alcoholic option is available.

Virtual Agent (Augmented Reality)

While the physical world is three-dimensional, most data is trapped on 2-D screens and pages. This gulf between the real and digital worlds limits our ability to make the best use of the volumes of information available to us. This demo shows how data and augmented reality can be applied in real world scenarios. We use virtual agent to simulate a check-in process. Users can use their own mobile phone to test it.

Walldorf demo (Augmented Reality)

The Walldorf Demo is a redesign of an empty Warehouse to a pretty Accenture Office using augmented reality. The user can use an iPad to take a close look at the building model on a 1m long table above the image tracker. Additionally, the building contains several POIs. These can be selected to get a detailed view at this position. This demo shows how Augmented Reality can be used for the early stages of building objects. It allows a better understanding of the room layout to make better decisions before the real object is built.

AI Station (Artificial Intelligence)

Various demos around natural language processing, computer vision and predictive intelligence recognition

HoloLens 2 Live

Dive into the world of Augmented Reality

Try the HoloLens 2 and get immersed in bleeding edge AR technology.

Robot Pepper

swisscom

Pepper is a humanoid robot programmed to analyze humans and their facial expressions / gestures and to respond to these emotional states accordingly.

Software and Algorithms for Autonomous Mobile Robots

sevensense

From the brink of sci-fi movies and rigid factory floors, robots shall be brought into the middle of our lives; as assistants for humans, freeing them of repetitive, unpleasant or dangerous tasks. Our team at Sevensense is actively contributing to this process by pushing the frontiers of mobile robotics in order to help industries achieve new levels of efficiency and unlock novel applications. Equipped with our solution, autonomous service robots can safely navigate in dynamic indoor and outdoor environments such as airports, supermarkets, warehouses and train stations. The Sevensense core technology is based on computer vision and AI techniques, originating from 10+ years of research at the Swiss Federal Institute of Technology, ETH Zurich.

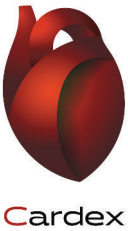
During the VIScon exhibition, we will demonstrate the capabilities of our localization system which is composed of both hardware and software components. Our sophisticated algorithms interpret data from multiple cameras in order to locate the robots in an environment, and reason about its whereabouts and immediate surroundings. We will bring a physical demonstrator that is composed of five cameras and a computing unit that will allow us to present our visual-inertial localization technology to the audience. We will introduce the algorithms which constitute the intelligence of autonomous robots and highlight the main challenges and cutting-edge solutions that are being developed to bring these robots into the real world.

Cardex

Novel Training Technology for MitraClip Procedure

For most professions where high reliability of the operator is a key factor, continuous and objective performance assessment of the trainees have been developed and refined over decades. As an example, training on simulators has become an essential part of the training program for aspiring aeroplane pilots. Quite surprisingly, such technologies have yet to be developed when it comes to the field of minimally invasive heart surgery, especially taking into account the risks of poor training in this technique.

Even though the demand for catheter-based interventions is growing, surgeons still do not have the possibility to train interventions in a safe and realistic manner. Therefore, an active effort needs to be made to close this gap and make use of ever improving simulators for surgical training and qualification. Simulators for catheter-based interventions in the heart already exist, but they do not provide fast reproducibility, realistic haptic feedback and satisfying imaging at the same time.



These characteristics were combined in the Cardex simulator for transseptal puncture developed during the previous year. In the second generation of the Cardex simulator, the shortcomings of the first simulator have been corrected, espacially in the domain of the imaging and the interatrial septum. Furthermore, on this novel platform the surgeons are able to practice an entire MitraClip intervention starting with the puncture of the vena femoralis at the groin, followed by the transseptal puncture and the placement of the MitraClip on the mitral valve.

The simulator is now complete and can be used for training. It is possible to conduct a complete operation in an environment that trustfully recreates an operating theatre: the user is able to work with real surgical instrument inside an anatomy fully emulating the real counterpart. This simulator also includes a realistic replication of the same imaging techniques present during an intervention, fluoroscopy and echocardiography, without the danger of irradiation or the encumbrance of the real devices.

From now on, the goal is to see the simulator in action and be able to assess whether it improves the training quality of surgeons. This can be done by making studies in various hospitals where the simulator is used.

Dipper

A diving airplane

We are an eight-member team of students from ETH Zurich, consisting of two electrical engineers and six mechanical engineers. As part of a one-year focus project, we are developing a wing aircraft that:

- can dive dynamically into water from the air;

- is freely manoeuvrable under water; and

- can take off again into the air through the surface of the water.

These specifications make our project new technological territory. Therefore, we are primarily a research project and want to provide the "proof of concept". Based on our research results, practical applications in the areas of "Marine Wild Life Control" and "Search and Rescue" can be developed in the future.

Scewo Bro

Scewo develops a compact, self-balancing wheelchair for disabled people that allows them to climb obstacles like stairs and drive around very agile.

Unlike its competition, Scewo combines design and technology in one device. This gives the user a freedom like no other device currently on the market. Already the prototypes yielded to a very high traction and many interactions with potential customers.

Hackathon

11.10.19 - 13.10.19

Opening Ceremony
Friday, 11.10. 15:00 - 17:30

- Welcome by VIS and D-INFK
- Opening speech by Gabriela Keller - CEO of Ergon
- Presentation of the schedule and Hackathon projects
- Apéro

Hackathon Start
Friday, 11.10. 18:00

- Introduction of mentors
- Assigning teams with projects

Hackathon End & Closing Ceremony
Sunday, 13.10. 12:00

- Presentation of the completed projects
- Award ceremony
- Apéro

G57 15:00 16:55

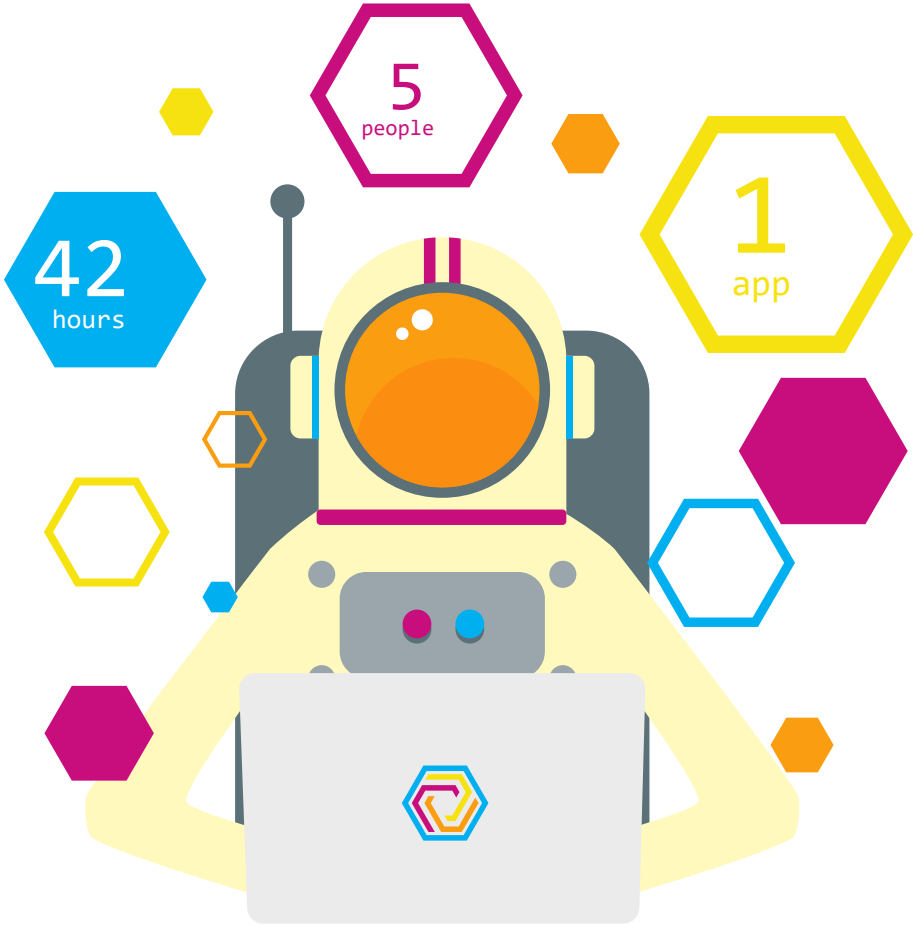
Gabriela Keller

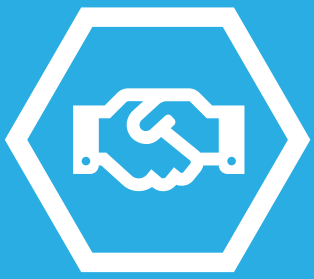
Gabriela Keller is Ergon Informatik AG's CEO. She holds a degree in IT engineering from the ETH Zurich and joined Ergon – after a stint at the ETH's Institute of Information Systems – in 1994 as a software developer and project manager. She was promoted to the Executive Board in the year 2000 and became CEO in July 2016.

Outside the office, she can be found running, cycling or skiing, preferably in the mountains or in Ticino. Her interests include architecture and culture, and she is a member of the Etzel Lions Club.

Don't miss her speech at the Hackathon opening ceremony!

ergon


5
people
1
app
42
hours



Sponsors

A big THANK YOU to our sponsors! VIScon would not be a reality without you!

Main-Sponsor:
ipt - Innovation Process Technology

We are a Swiss IT consulting company. Despite being on the market for more than 20 years, we have retained our start-up mentality: 130 people. Flat hierarchy. Lots of fun! We develop innovative, integrated software solutions on-site and together with our customers using leading-edge technologies. Our focus is data-driven businesses, process digitalization and agile organizations. Our people define who we are! Employees are our backbone, and everyone can contribute. We share our knowledge and support each other. We cherish our team spirit. We are ONE Team!

Why do you support VIScon? We are excited about the second edition of VIScon and look forward to being part of it again. The opportunity to share, interact, and connect within a community is exactly what we aspire at ipt! Last year we had a lot of fun and many highlights! One of them was of course to see your great results of the hackathon and to talk with you about hot topics from the IT industry. Just like last year, our people, who were also university grads, will be on-site to have a talk and a workshop with you about leading-edge technologies and topics from the industry. We would love to have an inspiring discussion with you and to bridge together the gap between theory and practice. Yves Brise, Daniel Yu, Abhimanyu Patel, Daniel Strebel and Jonathan Gan are looking forward to meeting you and to share their expertise with you. Sharing is caring!

Main-Sponsor: Ergon

Ergon is a Swiss leader in leveraging digitalisation to create unique and effective client benefits, from concept to market success. As a result, we distribute globally revered products, such as the award-winning Airlock® Secure Access Hub.

We combine our extensive technological, security and business experience to design "smart" solutions from complex problems. Anticipating tech trends, Ergon's highly-qualified experts develop and deploy user-friendly, custom software, as well as proven, off-the-shelf products, for many industries, worldwide. We believe in the value of 'Swissness' and our services and software are all located and made in Zürich.

Founded in 1984, the company now employs 300 members of staff, across two sites, and is based in the heart of Zürich. And soon we're opening a third location – placing all sites within a five-minute walking distance of each other, near Lake Zürich.

Over the years, we have been repeatedly named as one of the best Swiss employers, most recently receiving the distinction in 2018.

Ergon supports numerous initiatives to promote next-generation talents in computer science. Our goal is to inspire young people for our industry and our profession.

We have been supporting VIS for many years and we very much look forward to meeting you!

Main-Sponsor: Airlock

Airlock® delivers security innovation technology built with state-of-the-art software engineering by Ergon Informatik, Established in 2002, we are deeply committed to advancing security innovation.

The Airlock® Secure Access Hub protects more than 30,000 applications against unauthorised access, globally, with over 20 million active identities.

The Hub is the only one of its kind in the world that provides an integrated solution composed of: API Edge Gateway, Customer Identity and Access Management, and Web Application Firewall.

Airlock® is a sub-division of the preferred-employer Ergon, with a current fleet of 80 members of staff, and growing rapidly.

We are famous for our collaborative, transparent and innovation-driven work culture, which ensures that we continuously strive to improve across the entire organisation.

VIScon is a great opportunity to connect with future generations of software engineers who have a passion for security. We look forward to sharing how an idea can evolve into a successful product, and to debate with you on the latest security and privacy trends.

See you there!

Co-Sponsor: Zühlke

Innovation is in our DNA. Join us in Zurich or Bern and you will be able to do things differently and make the unusual the normal. And you will be encouraged to think as an entrepreneur, as you turn visions and original ideas into real-life results. We make sure that our people are constantly challenged by diverse, interdisciplinary projects in areas such as big data or cloud. They thrive in the complexity of our multi-faceted business – delivering today while creating lasting, long-term value for our clients.

Why do you support VIScon? VIScon is colourful, fun and its goal is to let students know more about Computer Science happening outside the lecture halls: That's where we come in, as this is what we live out every single day.

Co-Sponsor: BKW

With around 8'000 employees, the BKW Group is digitalising the energy and infrastructure industry. Around 200 ICT employees contribute significantly to the development of BKW's new services and products. We are positioning ourselves as a pioneer in digital collaboration in the international market. The cloud, SAP S/4, blockchain and the IoT are just a few of the exciting topics that inspire us every day. Are you as excited by new technology as we are? Then help us shape the transformation of the energy sector!

Why do you support VIScon? We believe that sharing knowledge is crucial for people's personal and professional development. VIScon offers the perfect platform for this. Moreover, with VIScon, we have found a place where we can share our knowledge and, in return, find out about new approaches and ideas. We want to share our broad experience with future IT specialists and demonstrate the huge opportunities for IT in energy and infrastructure services.

Co-Sponsor:
Beekeeper

Beekeeper exists because we believe people should be happy at work and have all the tools they need to perform their jobs at the highest level. At Beekeeper, we bring the digital workplace to non-desk workers through our communication and productivity platform to connect those who were previously disconnected.

We believe in the potential and contribution of every single employee and see the value in making them feel a sense of belonging at work. Informed, motivated, and empowered employees are the driving forces behind a company's success.

Why do you support VIScon? As an ETH spin-off we believe sharing passion in our field sparks more passion. We got the support from ETH community when we were starting our business and now as a successful global scale-up we want to support and inspire the next generation of computer scientists in their journey in the tech industry.

Beekeeper is hosting a little Scavenger Hunt at VIScon. Solve riddles, find hidden clues across the VIScon area and retrieve the secret treasure!

You can join at any time during the Symposium - find us at our stand in the lounge area on CAB G floor. The best hunters win a digitec voucher, but we also have a small price for every single participant!

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For over 1,700 Bachelor and Master students of Computer Science, Data Science and Computational Biology and Bioinformatics at ETH Zurich, VIS is the first point of contact for events, excursions, support during their studies and university political representation towards the Department of Computer Science of the ETH.

All these services - from welcome weekends for first-semester students, through exam preparation courses for the most important exams, to the largest academic job fair for computer science in Switzerland - are organized entirely on a voluntary basis by around 200 students alongside their studies.

VIS is part of the VSETH, the umbrella organization of all student organizations at ETH representing more than 20,000 students towards the university in terms of university politics and, like VIS, is omnipresent in student life outside the lecture halls.

Email: vis@vis.ethz.ch
Adresse: VIS-Verein der Informatik Studierenden
CAB E31
Universitätstrasse 6
8006 Zürich
Auflage: 500

vseth Fachverein Verband der Studierenden an der ETH

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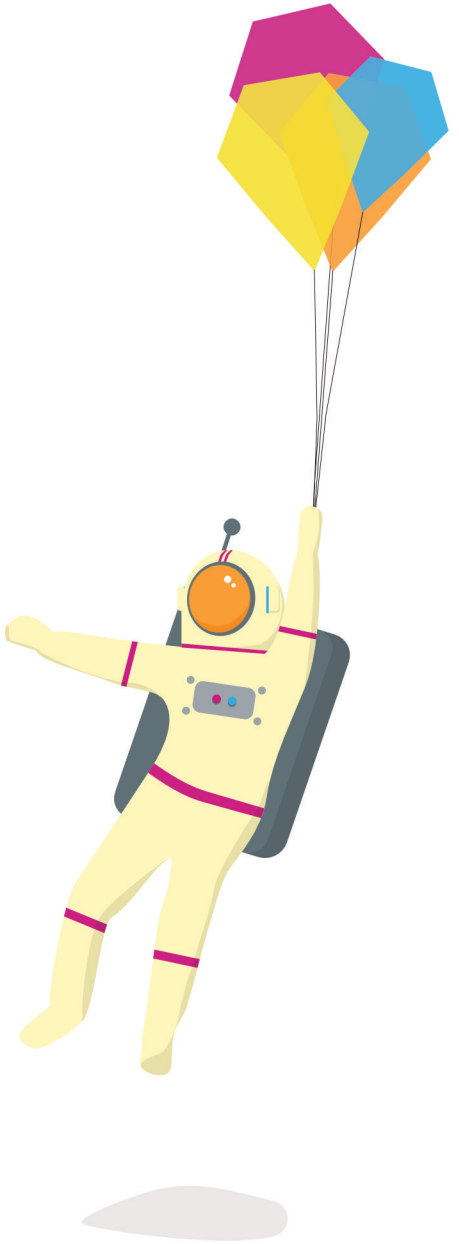

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SYMPOSIUM
HACKATHON