

Stefan Klikovits

Computer Scientist • Software Developer • Systems Engineer

17, Rue du Pré-Jérôme, 1205 Geneva, Switzerland

🇦🇹 Nationality: Austrian

✉️ stefan@klikovits.net
🌐 https://klikovits.net
📄 linkedin.com/StefanKlikovits
📱 stklik
☎️ (+41) 767 4196 61

Systems engineering expert with strong background in systems modelling, software engineering and quality assurance.

Enthusiastic presenter and trainer with multilingual public speaking experience in various international venues.

Deep knowledge of software development methodology, IT project management and goal-driven business processes.

Doctoral Research

“A Domain-Specific Approach to Hybrid Systems Modelling”

My PhD thesis proposes the use of domain-specific languages for hybrid systems modelling. I designed and implemented a DSL for the modelling of cyber-physical systems (e.g. smart home applications). The language targets users that aim for rapid prototyping of hybrid systems and novice users, who want to simulate and verify their systems without steep learning curves.

Work Experience

University of Geneva, CERN

JAN 2014 - PRESENT

Doctoral Researcher

During the first three years of my PhD, I was placed at CERN, the European Organization for Nuclear Research, where I developed a method to automatically generate unit test cases based on source code written in the proprietary “Control” programming language.

British Broadcasting Corporation

MAR 2013 - SEP 2013

MSc. Project “Virtual Sport @ BBC”

I researched possibilities to visualise live sports events and implemented a highly scalable tool for the schematic, graphical representation of football games that allows users to follow the actions in the absence of a video feed.

Kapsch TrafficCom AG

MAY 2012 - AUG 2012

Software Quality Manager, Software Engineer

I developed a unit testing and quality assurance framework for an automated road tax system. The software is powerful enough for efficient regression fault discovery and diagnostics by expert developers and simple enough for new clients to perform acceptance tests.

European Organization for Nuclear Research

FEB 2011 - JAN 2012

Software Test Engineer (Technical Student Programme)

I developed a framework for the automated testing of user interface at CERN. The tests simulate mouse and keyboard events and perform system tests to discover regression faults. I took responsibility in prioritisation of testing efforts, designed and implementing the test procedures, and automatically creating summarised test reports for developers and managers. My approach was published at the 13th ICALEPCS conference.

Projects

CREST

Combining architectural and behavioural concerns in a coherent, reactive formalism. Support of synchronism, parallelism and non-determinism for the modelling of resource-flows in CPS. The formalism is implemented as [crestdsl](#).

Provelt!

Use live second-screen technology to increase trust in TV journalism and offer access to journalists’ sources.

ITEC

The Iterative TEst Case generation project aims to generate regression tests based on existing source code.

Education

2014 – 2019

Doctor of Philosophy

Computer Science
University of Geneva

2012 – 2013

Master of Science

WITH DISTINCTION
Adv. Computer Science
University of Manchester

2008 – 2012

Bachelor of Science

Software & Information Eng.
Vienna University of Technology

Scientific Profile

RESEARCH INTERESTS

- Cyber-Physical Systems
- Modelling & Simulation
- Formal Methods
- Testing & Automation

JOURNAL REVIEWER

- SIMPAT
- EACS

PROGRAM COMMITTEE

- SE4CPS

COLLABORATIONS

- MPM4CPS COST Action

Skills & Certifications

PROJECT MGMT	Project Management for Research PM for Successful Research
PUBLIC SPEAKING	Prise de parole en public (in French)
COMMUNICATION	Negotiation skills
TECHNICAL	ISTQB Foundation Level Tester Certified LabVIEW Associate Developer

Languages

GERMAN	C2 (native)
ENGLISH	C2 (fluent)
FRENCH	B2 (advanced)
CROATIAN	B1 (intermediate)
NORWEGIAN	A1 (novice)

Extracurricular

GeoTOOLS-DB Instructor

I spent one week instructing over 50 students of the geology department on the basics of data bases. After the course, almost all of them were able to use data base software (HSQLDB, Microsoft Access), data base design formalism (UML Class diagrams) and write and execute SQL queries.

Scientific Outreach: School Intern Supervisor

Supervision of school students and interns (age 12 - 20), introducing them to the professional workflow at CERN, growing their interest in science and engineering.

CERN Tour Guide

Guided visitor groups in several languages throughout various visits points at the research lab, engaging audiences from primary school children to physics professors.

CERN Football Club treasurer and committe member

Overseeing the financial well-being, annual budget (> 15k CHF), book-keeping of a club with 400+ members. I also compiled legal documents and reports and raised the club's first outside sponsorship.

PADI Assistant Scuba Instructor

I have trained over 200 students, taking them from their plunge to certified diver, rescue diver and even dive master. Teaching under water, not only allowed me to share my diving passion with others but also forced me to sharpen my non-verbal communication and develop teaching strategies for various types of students. Due to the risks involved, I learned to take responsibility for other people's life and health by paying attention to detail and precision.

Teaching

MSc and BSc projects

Supervision of 3 individual students during project-based courses and dissertations.

Erasmus+ and International Student supervision

Supervision of student interns for their placement abroad.

Classroom teaching

Various subjects (e.g. Formal methods, IT projects)
Creation of course syllabi and assignments.

External examiner

Reviewed and graded BSc and MSc theses from other universities.

Workshops, Schools

- 2018 – MPM4CPS - Scientific Mission
– Knowledge and CPS Modelling School
- 2017 – CAMPaM'17
- 2016 – Halmstad Summer School of Testing
– DSM-TP'16
– MPM4CPS Training School
– CAMPaM'16
- 2015 – MPM4CPS Young Researchers Workshop

Publications

I wrote and contributed to over a dozen technical reports, conference and workshop papers.

Stefan Klikovits, Alban Linard, and Didier Buchs: CREST - A DSL for Reactive Cyber-Physical Systems. *Proc. of 10th System Analysis and Modeling Conference (SAM 2018)*, Copenhagen, Denmark, (2018).

Stefan Klikovits, Alban Linard, and Didier Buchs: CREST Formalization. *Technical report. Software Modeling and Verification Group*, University of Geneva, (2018).

Joachim Denil, **Stefan Klikovits**, Pieter J. Mosterman, Antonio Vallecillo, and Hans Vangheluwe: The Experiment Model and Validity Frame in M&S. *Proc. Symposium on Theory of Modeling & Simulation: DEVS*, (2017).

Stefan Klikovits, Manuel Gonzalez-Berges, and Didier Buchs: Towards Language Independent (Dynamic) Symbolic Execution. *24th PhD Mini-Symposium*, Budapest University of Technology and Economics (2017).

A curated list is available at klikovits.net/publications.