

# Jonathan Müller

## Curriculum Vitae

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Swiss citizen, 09.01.1992, unwed



## Education

- 09/2015–01/2018 **MSc, ETH Zürich.**
- Master program in Electrical Engineering and Information Technology
  - Specialization: Machine learning and computer vision
  - Thesis (in progress): Active stereo vision for depth perception using event based vision sensors
- 08/2016–01/2017 **Exchange Semester, Lunds Tekniska Högskola, Lund, Sweden.**
- Dept. of Computer Science
  - Courses on computer vision and interactive computer graphics
  - During MSc program at ETH Zurich
- 09/2011–09/2015 **BSc, ETH Zürich.**
- Bachelor program in Electrical Engineering and Information Technology
  - Specialization: Computers and networks
- 08/2006–07/2010 **Baccalaureate school, Kantonsschule Frauenfeld.**
- Specialization: Applications of mathematics and physics

## Experience

- 03/2016–08/2016 **Software Engineering Intern, ABB Schweiz AG, Corporate Research Center, Baden.**
- Created a C++ library providing crypto operations and machine learning algorithms on encrypted data:
    - Implemented new methods from current research on homomorphic encryption
    - Optimized and parallelized using OpenMP
    - Set up automatic build, test and release process (Gitlab CI, Docker)
  - Created a web app as demonstration prototype for the library created:
    - Ported C++ code to run in the browser using Emscripten
    - Created bindings to Java and Scala
    - Server-side based on Scala-Play and Akka
    - Implemented real time communication with browser client via WebSockets
- 06/2012–12/2012 **Research Assistant, Computer Engineering Group, ETH Zürich.**
- Developed an Android app to distribute and maintain autonomous temperature loggers:
    - Analyzed existing legacy solution, created specs and design accordingly
    - Ported device driver from Linux to Android userspace for interfacing loggers
    - Automated synchronization of deployment and measurement data between smartphone clients
- 10/2012–01/2017 **Co-founder, Head of Software Engineering, Apoveda GmbH, Aadorf.**
- Co-founded a soft- and hardware development company besides university, employing students in part-time.
- Responsible for project management, general IT and infrastructure services
  - Business development and branding
  - Involved as project manager and engineer on more than 10 projects (Web, Mobile, Hardware)
  - Clients include Volksbank Schweiz, Urban Farmers AG, Zuriga, Swisslex

- 02/2015–06/2016 **Teaching Assistant, ETH Zürich.**
- Assisted students in computer engineering lab lessons
  - Provided example solutions and technical support
  - Topics covered were memory management, concurrent computing, network programming and file systems
- 08/2010–02/2011 **Software Engineering Intern, Kaden & Partner AG, Frauenfeld.**
- Designed and implemented in-house backoffice solution for time logging and invoicing
    - Reverse-engineered legacy solution, designed new version according to requirements
    - Implemented as web app, using modern web technologies (ExtJS, CakePHP, MySQL)
    - Migrated data to new solution
  - Created a prototype for an Android GIS solution
    - User can record geodata in the field and annotate it with custom data
    - Targeted at city planning and wildlife management officials

## Computer skills

Programming	C, C++, Python, Java, Scala, OpenGL, Android, Go, Ruby, Javascript, Emscripten
Web	Ruby on Rails, PostgreSQL, AngularJS, Play Scala, Akka, HTML/CSS, CouchDB
Scientific	OpenCV, NumPy, SciPy, scikit-learn, Matlab, Theano, CUDA, OpenCL, OpenMP
Tooling	Linux, Git, Ansible, Docker, Bash, Zsh, Gitlab, Microsoft Office, Inkscape

## Languages

German	Native
English	Fluent
French	Advanced
Swedish	Basic Comprehension

## Interests and Activities

Entrepreneurship	10/2013 – 12/2015, ETH Entrepreneur Club: executive committee member, responsible for IT, event organization
Outdoors	Road cycling, cyclocross, hiking
Scouting	Scoutmaster since age 18, organized camps and J+S courses, "Abteilungsleiter" during 4 years
Hackathons	Entrepreneur Club Hackathon, StartHack (St. Gallen), HackZurich
Military	2011, 2013 – In total 7 months of compulsory Swiss military service
Civilian Service	2015, 2017 – 4 months of Swiss alternative civilian service

## Publications

J. N. P. Martel, L. K. Müller, S. J. Carey, J. Müller, Y. Sandamirskaya, and P. Dudek. Live demonstration: Depth from focus on a focal plane processor using a focus tunable liquid lens. In *2017 IEEE International Symposium on Circuits and Systems (ISCAS)*, pages 1742–1743, May 2017.

J. N. P. Martel, L. K. Müller, S. J. Carey, J. Müller, Y. Sandamirskaya, and P. Dudek. Real-time depth from focus on a programmable focal plane processor. *IEEE Transactions on Circuits and Systems I: Regular Papers*, PP(99):1–10, 2017.

J. Müller, M. Keller, J. Beutel, S. Gubler, V. Wirz, and S. Gruber. iAssist for Android Smartphones. Poster presented at NCCR MICS Final Event 2012, Lausanne, Switzerland, 2012. <http://www.mics.org/micsPosters3.php?action=FE12&group=Perma&pno=3>.