

# Curriculum Vitae

## Personal Details

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Lörrach, Germany



## Education

Jan 2019 - May 2019 Exchange semester, University of Pennsylvania, Philadelphia, USA  
Since Sep 2018 ETH Zurich, Msc. Robotics, Systems and Control  
Sep 2015 - Aug 2018 ETH Zurich, Bsc. Mechanical Engineering  
Sep 2007 - Jun 2015 Hans-Thoma-Gymnasium (secondary school), Lörrach  
Sep 2003 - Jul 2007 Hellberg Grundschule (elementary school), Lörrach

## Work experience

Apr 2020 - Jun 2020 Research assistant at the IDSC, ETH Zurich, Switzerland  
Sep 2018 - Dec 2018 Four-month industry internship, Ruag Space, Zurich, Switzerland  
Feb 2018 - Jun 2018 Teaching assistant for thermodynamics, ETH, Zurich, Switzerland  
Jul 2015 Six-week machine shop training, Busch GmbH, Maulburg, Germany  
Oct 2012 One-week micro systems technology internship, Northrop Grumman LI-TEF GmbH, Freiburg, Germany

## Achievements/Awards

Mar 2018 Admission to the ETH Excellence Scholarship and Opportunity Program  
Dec 2015 Admission to the Studienstiftung des Deutschen Volkes (German National Academic Foundation)  
May 2015 ISEF - International Science and Engineering Fair, Pittsburgh, USA: 4<sup>th</sup> Award, Physics  
Sep 2014 Presentation of my Jugend-Forscht paper to the German Federal Chancellor Dr. A. Merkel, Bundeskanzleramt, Berlin  
May 2014 Jugend Forscht, Künzelsau, Germany: Bundessieg (winner of German national youth research prize)  
May 2014 ISEF - International Science and Engineering Fair, Los Angeles, USA: 2<sup>nd</sup> Award, Physics

## Additional Skills

Programming	C++ Robotics Tools (ROS, MPC), Computer Vision (OpenCV), High-performance computing (numerical calculations) Python Machine Learning (Tensorflow) Optimization (cvxpy, mosek) Matlab
Management	Board Member of the Fotokommision of the VSETH Head of the photography team, Sustainability Week 2016, Zurich Student representative on the board of directors, student-research center Phaenovum, Lörrach
Languages	German - first language English - Level C1, TOEFL iBT score (115/120) French - basic reading and writing skills

## Publications

- **L. Bauersfeld**, D. Scaramuzza, “Range, Endurance, and Optimal Speed Estimates for Multicopters”, *Robotics and Automation Letters (RAL)*, 2020
- E. Kaufmann, **L. Bauersfeld**, D. Scaramuzza, “ A Benchmark Comparison of Learned Control Policies for Agile Quadrotor Flight”, *IEEE International Conference on Robotics and Automation (ICRA)*, 2022
- **L. Bauersfeld\***, E. Kaufmann\*, P. Foehn, S. Sun, D. Scaramuzza, “NeuroBEM: Hybrid Aerodynamic Quadcopter Model”, *Robotics: Science and Systems (RSS)*, 2021
- **L. Bauersfeld**, L. Spannagl, G. Ducard, C. Onder, “MPC Flight Control for a Tilt-Rotor VTOL Aircraft”, accepted at *IEEE Transactions on Aerospace and Electronic Systems (TAES)*, 2020
- **L. Bauersfeld** and G. Ducard, “Real-Time Onboard Laser-based Localization, Mapping and Collision Avoidance”, *MDPI Vehicles*, 2020
- **L. Bauersfeld** and G. Ducard, “Fused-PID Control for Tilt-Rotor VTOL Aircraft”, *28th Mediterranean Conference on Control and Automation (MED)*, 2020, Saint-Raphael, France
- **L. Bauersfeld** and G. Ducard, “Low-cost 3D Laser Design and Evaluation with Mapping Techniques Review” in *Proceedings of the Sensor Applications Symposium*, 2019, pp. 81–86
- **L. Bauersfeld** and M. Neidinger, “Der Kerzenlift” in *Junge Wissenschaft*, 2015, vol. 104, pp. 40 – 51