

Curriculum vitae

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Personal data

Last name: Schlegel
First name: Dominik
Address: Bungertstrasse 56, 7323 Wangs, SG
Telephone number (Swiss): +41 79 447 27 23
E-mail: schdomin@gmail.com
Birth date: May 17, 1989
Birth place/Nationality: Flums-Kleinberg SG/Switzerland
Marital status: unmarried
Hobbies: Computers, Fitness, Climbing



Education

2008 - 2012	Bachelor of Science (BSc) in MAVT , ETH Zürich
2013 Spring	Language stay (TOEFL), San Francisco
2013 - 2015	Master of Science (MSc) in MAVT: Robotics , ETH Zürich
2014 Autumn	Industrial internship, ExcellenceTech Calcutta
2016 - now	PhD in Engineering in Computer Science, Sapienza Roma

Work Experience

C++ Software Engineering (7 months) [ETH Juniors](#)
Bachelor thesis in Computer Vision (C++, Visual Tracking) [RPG lab](#)
Semester thesis in Machine Learning (Java) [DISCO lab](#)
Web development and teaching (4 months) [ExcellenceTech](#)
Master thesis in Robotics (C++, Visual SLAM) [RoCoCo lab](#)
C++ Software Engineering (2 years) [treibauf](#)
PhD internship in Computer Vision (12 weeks) [Oculus](#) ([facebook](#))

Special Skills

Very efficient and independent way of working
C/C++, Java, CUDA, HTML5, PHP5, JavaScript and \LaTeX knowledge
Experience with Linux Ubuntu, Debian and Mint and Microsoft Windows
Development experience with Eclipse, Qt Creator and Visual Studio
Very conversant with Git and SVN (private) revision control
MSDN, boost, OpenCV, OpenMP and ROS library knowledge
CAD, MATLAB, LabVIEW, ANSYS, Arduino and Kinect knowledge
Experience with CppUnit and Google Test unit testing
Proficient with Hudson/Jenkins build systems (C++ projects)
High interest in computer hardware (construction, tuning and cooling)
Comfortable with Scrum agile software development management
Experience with CMake, buck and catkin build and packaging tools

Languages

German	native language (Swiss German)
English	written and spoken very good (TOEFL 110/120)
Italian	written and spoken good
French	written and spoken fair (DELFB B2)

Research

Visual Simultaneous Localization and Mapping (SLAM)
Visual Place Recognition (VPR)
Binary Descriptors in Visual Tracking and VPR
Gauss-Newton Minimization (ICP, Factor Graph)

Publications

- 2015 - Online large-scale SLAM with Stereo Visual-Inertial Sensors
Dominik Schlegel, Giorgio Grisetti, Jonas Buchli
in: [2015 ETH Zürich Research Collection](#)
DOI: [10.3929/ETHZ-A-010633946](#)
- 2016 - Visual Localization and Loop Closing Using Decision Trees and Binary Features
Dominik Schlegel, Giorgio Grisetti
in: [2016 IEEE/RSJ Int. Conf. on Intelligent Robots and Systems \(IROS\)](#)
DOI: [10.1109/IROS.2016.7759679](#)
- 2017 - ProSLAM: Graph SLAM from a Programmer's Perspective
Dominik Schlegel, Mirco Colosi, Giorgio Grisetti
in: [2017 arXiv Computing Research Repository \(CoRR\)](#)
in: [2018 IEEE Int. Conf. on Robotics and Automation \(ICRA\)](#)
DOI: [10.1109/ICRA.2018.8461180](#)
- 2018 - HBST: A Hamming Distance Embedding Binary Search Tree for Feature-Based Visual Place Recognition
Dominik Schlegel, Giorgio Grisetti
in: [2018 IEEE Robotics and Automation Letters \(RA-L\)](#)
in: [2018 IEEE/RSJ Int. Conf. on Intelligent Robots and Systems \(IROS\)](#)
DOI: [10.1109/LRA.2018.2856542](#)
- 2018 - Adding Cues to Binary Feature Descriptors for Visual Place Recognition
Dominik Schlegel, Giorgio Grisetti
in: [2018 arXiv Computing Research Repository \(CoRR\)](#)
in: [2019 IEEE Int. Conf. on Robotics and Automation \(ICRA\)](#)

Conferences

- 2015 [Robotics: Science and Systems XI \(RSS\)](#)
2016 [IEEE/RSJ Int. Conf. on Intelligent Robots and Systems \(IROS\)](#)
2018 [IEEE Int. Conf. on Robotics and Automation \(ICRA\)](#)
2018 [IEEE/RSJ Int. Conf. on Intelligent Robots and Systems \(IROS\)](#)
2019 [IEEE Int. Conf. on Robotics and Automation \(ICRA\)](#)

Teaching

- Teaching Assistant in [Probabilistic Robotics](#) Master course (A.Y. 2017-2018)
Teaching Assistant in [Tecniche di Programmazione](#) Bachelor course (A.Y. 2017)

Tutoring

- A minimalistic stereo visual SLAM system (Master thesis 2016)
Lightweight optimization for Graph SLAM (Master thesis 2016)
Building a stereo visual-inertial sensor (Semester thesis 2017)
Wheel odometry assisted RGB-D SLAM with Depth Fusion (Master thesis 2018)
Multi-Sensor SLAM with factor graphs (Master thesis 2018)
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