

EDUCATION

- **University of Pennsylvania** Philadelphia, PA
Fulbright Visiting Scholar in Computer Science Aug. 2017 – May 2018
- **Technical University Dresden** Dresden, Germany
Diploma in Electrical Engineering, Focus: Robotics and Control; GPA: 3.95 Aug. 2012 – Aug. 2017

EXPERIENCE

- **Computer Vision Lab Dresden** Dresden, Germany
Diploma Thesis, Supervisor: Carsten Rother Apr. 2017 - Aug. 2017
 - **Object Pose Estimation:** Design, implement and test a pipeline for 6D pose estimation of objects from single RGB/RGB-D input images. Used dataset features texture-less objects and heavy occlusion.
 - **Deep Learning:** Implement Deep CNNs in Caffe for instance-aware semantic segmentation and 3D shape reconstruction as part of the pose estimation pipeline.
- **Institute of Automotive Engineering Dresden** Dresden, Germany
Research Assistant Apr. 2016 - Jan. 2017
 - **Reinforcement Learning:** Develop a Reinforcement Learning algorithm for learning energy-optimal driving strategies for hybrid-electric vehicles. Implementation of linear value function approximation for improved learning speed and accuracy.
- **BMW Research and Technology** Munich, Germany
Research Intern Oct. 2015 - Mar. 2016
 - **Data Acquisition:** Development of tools for data acquisition and evaluation in ROS for learning-based techniques in the field of automated driving.
 - **Maneuver Classification and Prediction:** Development of machine learning algorithms for the classification and prediction of vehicle lane change maneuvers using TensorFlow.
- **Technical University Dresden** Dresden, Germany
Teaching Assistant Apr. 2014 - Mar. 2015
 - **Algebra and Electrical Engineering:** Independently held two weekly exercises in undergraduate mathematics for engineers and lead the extra-tuition program in electrical engineering for undergraduate students.

SCHOLARSHIPS AND AWARDS

- **Fulbright Scholarship:** Awarded by the US government for academic excellence and social commitment. Aug. 2017
- **Year's Best Pre-Diploma:** Awarded by the Faculty of Electrical and Computer Engineering. Aug. 2014
- **Deutschlandstipendium:** National scholarship for outstanding academic achievements. Oct. 2013 - Sep. 2017

TECHNICAL SKILLS

- **Languages:** C++, Python, Matlab, Java/Android
- **Technologies:** Caffe, TensorFlow, ROS, Matlab/Simulink

PUBLICATIONS

K. Pertsch, R. Liessner, B. Baeker, 'Reinforcement learning as a means for future diagnostical techniques', *11th Conference on Diagnosis in Mechatronic Vehicle Systems*, 2017.