

EDUCATION

- **University of Southern California** Los Angeles, CA
PhD in Computer Science with Joseph Lim since Aug. 2018
- **University of Pennsylvania** Philadelphia, PA
Fulbright Visiting Scholar in Computer Science; GPA: 4.0 Aug. 2017 – May 2018
- **Technical University Dresden** Dresden, Germany
Diploma in Electrical Engineering, Focus: Robotics and Control; GPA: 4.0 (with distinction) Aug. 2012 – Aug. 2017

EXPERIENCE

- **GRASP Lab, University of Pennsylvania** Philadelphia, PA
Fulbright Visiting Scholar, Supervisor: Kostas Daniilidis Aug. 2017 - May 2018
 - **Unsupervised Learning of Action Representations:** Learn a representation of an agent's actions through variational video prediction just from raw images (without action annotation). Perform action conditioned video prediction and visual servoing.
- **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 6DoF 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:** Develop tools for data acquisition and evaluation in ROS for learning-based techniques in the field of automated driving.
 - **Maneuver Classification and Prediction:** Develop 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

PUBLICATIONS

- O. Rybkin*, **K. Pertsch***, A. Jaegle, K. G. Derpanis, K. Daniilidis, 'Unsupervised Learning of Sensorimotor Affordances by Stochastic Future Prediction', ArXiv, 2018.
- O. H. Jaffari*, S. K. Mustikovela*, **K. Pertsch**, E. Brachmann, C. Rother, 'iPose: Instance-Aware 6D Pose Estimation of Partly Occluded Objects', ArXiv, 2017.