Lv, Zhaoyang

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Current Work

Research Scientist Facebook Reality Labs Research — Sept. 2019 - Present
Facebook — Redmond, U.S.
Director: Richard Newcombe

Education

Ph.D. in Robotics RIM center, School of Interactive Computing — Aug.2014 - Aug.2019
Georgia Institute of Technology — Atlanta, U.S.
- Phd Thesis: *Visual Dense Three-Dimensional Motion Estimation in the Wild*
- Advisor: James Rehg, Frank Dellaert (co-advised)
- Qualifer exam areas: Perception, AI and Control.

M.Sc. Artificial Intelligence in Computing — Sept.2012 - Sept.2013
The Imperial College of Science, Technology and Medicine — London, U.K.
- Master Thesis: *KinfuSeg: A Dynamic SLAM Approach Based on KinectFusion.*
- Courses: Distinction (Highest level awarded top 15%)
- Awards: Distinguished Thesis (3 among 71), Top 5%.

B.Sc. Electrical Engineering in Aeronautics — Sept.2008 - July 2012
Northwestern Polytechnical University (CN) — Xi'an, P.R.China
- Courses: 89.5, Top 5%;
- Bachelor Thesis: *Quadrotor Design and its Navigation*, 90.0, Top 5%

Past Work Experience

Research Intern Learning and Perception Research Group — Jan. 2019 - May 2019
Nvidia Research — Santa Clara, U.S.
Director: Jan Kautz
Mentors: Kihwan Kim, Deqing Sun, Alejandro Troccoli

PhD Intern Autonomous Vision Group — June 2018 - Nov. 2018
Max Planck Institute Intelligent System — Tuebingen, Germany
Advisor: Andreas Geiger

Research Intern Learning and Perception Research Group — May 2017 - Aug 2017
Nvidia Research — Santa Clara, U.S.
Director: Jan Kautz;
Mentors: Kihwan Kim, Deqing Sun, Alejandro Troccoli

Research Inten Autonomous Vehicle Sensor Fusion — May 2016 - Aug. 2016
Qualcomm R&D — San Diego, U.S.
Manager: Ali-akbar Agha-mohammadi (Ali Agha)

Research Intern Computer Vision Group — Dec.2013 - July 2014
State Key Lab of CAD&CG, Zhejiang University — Hangzhou, P.R. China
Advisor: Guofeng Zhang

Major Publications

SENSE: A Shared Encoder Network for Scene-flow Estimation,
Huaizu Jiang, Deqing Sun, Varun Jampani, **Zhaoyang Lv**, Erik Learned-Miller, Jan Kautz,
International Conference on Computer Vision (CVPR) 2019, Oral Presentation (∼5%)

Taking a Deeper Look at the Inverse Compositional Algorithm,
Zhaoyang Lv, Frank Dellaert, James M. Rehg, Andreas Geiger,
Computer Vision and Pattern Recognition (CVPR) 2019, Oral Presentation (∼5%)

Learning Rigidity in Dynamic Scenes with a Moving Camera for 3D Motion Field Estimation,
Zhaoyang Lv, Kihwan Kim, Alejandro Troccoli, Deqing Sun, James M. Rehg, Jan Kautz,
European Conference on Computer Vision (ECCV) 2018

A Continuous Optimization Approach for Efficient and Accurate Scene Flow,
Zhaoyang Lv, Chris Beall, Pablo F. Alcantarilla, Fuxin Li, Zsolt Kira, Frank Dellaert,
European Conference on Computer Vision (ECCV) 2016

Multi-class Classification without Multi-class Labels,
Yen-Chang Hsu, **Zhaoyang Lv**, Joel Schlosser, Phillip Odom, Zsolt Kira,
International Conference on Learning Representations (ICLR) 2019

Learning to Cluster in Order to Transfer across Domains and Tasks ,
Yen-Chang Hsu, **Zhaoyang Lv**, Zsolt Kira,
International Conference on Learning Representations (ICLR) 2018

Patents

Learning rigidity of dynamic scenes for three-dimensional scene flow estimation,
Zhaoyang Lv, Kihwan Kim, Deqing Sun, Alejandro Jose Troccoli, Jan Kautz,
US Patent App. 16/052.528

Motion Planning and Intention Prediction for Autonomous Driving in Highway Scenarios via Graphical Model-based Factorization,
Zhaoyang Lv, Aliakbar Aghamohammadi, Amir Tamjidi,
US Patent App. 15/601.047

Holistic Planning with Multiple Intentions for Self-driving Cars,
Zhaoyang Lv, Aliakbar Aghamohammadi,
US Patent App. 15/604,437

Misc

Instructor *Computer Vision 4476* — Summer 2019
Organizer Georgia Tech *Computer Vision Reading Group* — Fall 2015 - Fall 2018
Teaching Assistant *Deep Learning 7643* — Fall 2017
Teaching Assistant *Computer Vision 4476/6476* — Fall 2016
Vice President in Public Relation of Georgia Tech *RoboGrads* — Fall 2016 - May 2017
Journal Reviewer for T-PAMI, IJCV, T-Multimedia
Conference Reviewer for CVPR, ECCV, ICCV, AAAI, IROS, ICRA

Software (Primary)

Programming Languages: C++, Python
Deep Learning: Pytorch