

JUSTIN LIANG

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EDUCATION

- University of Toronto** Sept 2016 - May 2018
Master of Science, Computer Science
Machine Learning Group
Supervisor: Raquel Urtasun
GPA: 4.00, A+
- University of British Columbia** Sept 2011 - May 2016
Bachelor of Applied Science, Mechanical Engineering
Mechatronics Option
90.3/100 — Rank: 1/34, A+

PUBLICATIONS

- J. Liang**, N. Homayounfar, W. C. Ma, S. Wang, R. Urtasun. Convolutional Recurrent Network for Road Boundary Extraction. (CVPR 2019)
- J. Liang**, R. Urtasun. End-to-End Deep Structured Models for Drawing Crosswalks. (ECCV 2018)
- S. Wang, M. Bai, G. Mattyus, H. Chu, W. Luo, B. Yang, **J. Liang**, J. Cheverie, S. Fidler, R. Urtasun. TorontoCity: Seeing the World with a Million Eyes. (ICCV 2017, **Spotlight**)

RESEARCH EXPERIENCE

- Research Assistant, Machine Learning Group, Dept. of Computer Science, UofT** Sept 2016 - May 2018
Advisor: Prof. Raquel Urtasun
- Implemented semantic segmentation algorithms for aerial images.
 - Performed building footprint shape reconstruction for buildings in aerial images.
 - Developed algorithms to automatically draw crosswalks.
 - Developed algorithms for automatic mapping for autonomous vehicles.
- Research Assistant, Clean Energy Research Lab, Dept. of Mechanical Engineering, UBC** May 2013 - Aug 2013
Advisor: Prof. Steven Rogak, Dr. James Montgomery
- Designed experimental setup to test HVAC filters.
 - Conducted analysis to predict energy use and operation cost of HVAC filters.

WORK EXPERIENCE

- Research Scientist II, Uber ATG** Sept 2018 - Present
- Working on machine learning algorithms for autonomous vehicles
- Research Scientist I, Uber ATG** Oct 2017 - Aug 2018
- Working on machine learning algorithms for autonomous vehicles
- Research Intern, Uber ATG** July 2017 - Sept 2017
- Working on machine learning algorithms for autonomous vehicles

Computer Vision Engineer, Dark Vision

Feb 2016 - May 2016

- Designed an optical scanning system to be used for generating 3D models of well liners and casings.
- Developed machine vision algorithms to generate 3D models of pipelines to detect and classify defects.

Software Development Intern, Verity Studios (ETH Spin-Off)

Jan 2015 - Aug 2015

- Built a parameter server in C++ to save and load parameter data onto quadcopters.
- Developed user interfaces using Qt and ROS.

Controls Design Support Engineer, Confirmed Automation Systems Sept 2013 - Dec 2013

- Designed mechanical and hardware solutions for industrial processing plants.

VOLUNTEER EXPERIENCE

Software Engineer, UBC Snowbots School Team

Sept 2014 - Aug 2015

- Implemented pathfinding algorithms on autonomous robot.
- Interfaced with sensors to localize robot.

Electrical Engineer, UBC SuperMileage School Team

Sept 2012 - Apr 2013

- Built test setup to evaluate vehicle performance.

AWARDS AND HONOURS

Google Travel and Conference Grant (CVPR 2017)	2017
University of Toronto Graduate Fellowship	2016
Letson Prize	2016
Frank Vernon Memorial Scholarship 2x	2015, 2013
Charles and Jane Banks Scholarship	2014
NSERC Undergraduate Student Research Award	2013
Trek Excellence Scholarship 2x	2013, 2012
Association of Professional Engineers and Geoscientists Scholarship	2012
British Columbia Government Scholarship	2012
Top Science Student Award (Secondary School)	2011
Euclid Math Contest School Champion (Secondary School)	2011

SKILLS

Languages Python, C, C++, MATLAB, LaTeX, HTML, CSS, Javascript**Tools** TensorFlow, Caffe, ROS, Git, Linux, Vim, Visual Studio, Bootstrap