Hangxin Liu

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EDUCATION

University of California, Los Angeles **Los Angeles, CA**
Overall GPA 3.90/4.00 09/2016 – Present
M.S. in Mechanical Engineering

- Concentrated in Robotics. Courses Taken: Linear System, Linear Optimal Control, Control of Robotics

Virginia Polytechnic Institute & State University (Virginia Tech) **Blacksburg, VA**
Overall GPA 3.78/4.00, Magna Cum Laude, Honors Scholar 08/2012 – 05/2016
B. S. in Mechanical Engineering

- Concentrated in Robotics. Courses Taken: Vibrations, Control, Robotics&Automation, Bayesian Robotics, Linear&Nonlinear Vibrations

B. S. in Computer Science

- Concentrated in Scientific Computing. Courses Taken: Data Structure&Algorithms, Computer System, Numerical Method, Theory of Computation, Issues in Scientific Computing, Machine Learning, Numerical Analysis

Minor: **Mathematics**

Shanghai Jiao Tong University (*University of Michigan-SJTU Joint Institute***)** **Shanghai, China**
Exchange Student 05/2014 – 08/2014

- Courses Taken: Thermodynamics, Heat Transfer, Intermediate Dynamics and Vibration

APPOINTMENTS

Center for Vision, Cognition, Learning, and Autonomy 09/2016 – Present
Graduate Student Researcher, Advisor: Dr. Song-chun Zhu

Computational Multi-physics Systems (CMS) Laboratory 01/2015 – 09/2016
Undergraduate/Graduate Research Assistant, Advisor: Dr. Tomonari Furukawa

- Developed an infrastructural traffic monitoring design using Arduino, laser ranger finders, IR image senor with Raspberry Pi.
- Led the software sub-team of Self-Driving Vehicle Team (SDVT: http://www.me.vt.edu/sdvt/) and implemented way-point controls on a drive-by-wire goftcart in Robot Operating System (ROS) using Sick LiDAR, IMU, GPS, and RGB-D sensors.
- Assisted a Post-doc researcher in developing probabilistic approach to NLOS visual/ acoustical target estimation based on recursive Bayesian estimation framework, and conducting test on human/ mobile sensor platform for human-robot-interaction.
- Worked on motion tracking and feature detection using non-stationary camera that enabled UAV to locate, track and land on a moving ground vehicle for the Mohamed Bin Zayed International Robotics Challenge (MBZIRC 2017).
- Mentoring a senior design project, Self-Driving Vehicle Team, consisting of ten senior students.

Ipsen Industries Furnaces (Shanghai) Ltd. 07/2014 – 08/2014
R&D Internship

- 3D modeled furnace covers, pipes, flanges and standard parts using AutoDesk Inventor.
- Audited sketches and selected suitable parts (motors, valves) corresponding to China National Standard.

PUBLICATIONS

Journal Paper:

1. K. Takami, **H. Liu**, T. Furukawa, M. Kumon, G. Dissanayake, "Reflection and Diffraction Signals based Recursive Bayesian Estimation for Non-Field-of-View Target," (in preparation).

2. Tian, Y., **Liu, H.** and Furukawa, T., 2017. Reliable Infrastructural Urban Traffic Monitoring Via Lidar and Camera Fusion. SAE International Journal of Passenger Cars-Electronic and Electrical Systems, 10(2017-01-0083), pp.173-180.

Conference Paper:

1. K. Takami, **H. Liu**, T. Furukawa, M. Kumon, G. Dissanayake, "Non-Field-of-View Sound Source Localization Using Diffraction and Reflection Signal," IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2016

2. **H. Liu**, Y. Tian, T. Furukawa,. "Design of Highly Reliable Infrastructural Traffic Monitoring Using Laser and Vision Sensors," ASME IDETC/CIE, 2016

3. K. Takami, **H. Liu**, T. Furukawa, M. Kumon, G. Dissanayake, "Recursive Bayesian Estimation of NFOV Target Using Diffraction and Reflection Signals," ISIF International Conference on Information Fusion, 2016

HONORS & AWARDS

- Pratt Engineering Scholarship ($5000 each academic year) from Collage of Engineering — 2013 – 2016
- Dean's Scholarship ($3000) from Collage of Engineering — Spring 2013
- Dean's List (Two semesters). — Spring 2015– Fall 2015
- Dean's List with Distinction (Six semesters). — Fall 2012 – Fall 2014, Spring 2016
- University Honor Student at Virginia Tech. — Summer 2014 – Spring 2016

LANGUAGES & SKILLS

Language: Native in Chinese Mandarin and Chinese Cantonese; Fluent in English.

Skills: Computer Languages: Java, C/C++, Python — Software: Robot Operating System (ROS), MATLAB, Eclipse
Operating Systems: Windows, Linux — CAD: AutoDesk Inventor

MEMBERSHIPS & AFFILIATION

- Member of **Phi Beta Kappa** Honor Society. — 04/2016 - Present
- Student Member of ASME. — 01/2016 - Present
- Member of **Tau Beta Pi** National Engineering Honor Society. — 04/2014 - Present