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Education

2017–? **Robotics Institute, Carnegie Mellon University** Ph.D. in Robotics

Advised by: Dr. Nathan Michael

2015-2017 **Robotics Institute, Carnegie Mellon University** M.S. in Robotics

Advised by: Dr. Nathan Michael, Dr. Koushil Sreenath

2010-2015 **University of Toronto** B.A.Sc. in Engineering Science with Honours

Major in Aerospace Engineering, Minor in Robotics and Mechatronics

Thesis: Control with Complex Specifications for a Flip Maneuver of a Quadrotor Helicopter

Advised by: Dr. Mireille Broucke

Experience

2015-2017 Robust Adaptive Systems Lab, Robotics Institute, Carnegie Mellon University Pittsburgh PA, USA

Graduate Student

My research focuses on improving user efficiency by concurrent online estimation of user intent and online adaptation based on user performance for teleoperating aerial and ground robots.

2015 **Rapyuta Robotics Ltd.** Zürich, Switzerland; Tokyo, Japan

Control Engineering Intern

Simulated, implemented and tested an aggressive quadrotor hover-to-hover flip maneuver using a parameterized open-loop trajectory, improved using iterative learning scheme for real-time flip performance.

2014 Autonomous Systems and Biomechatronics Lab, University of Toronto Toronto ON, Canada

Research Assistant

Implemented OctoMap for 3D mapping with Microsoft Kinect and developed constraints and parameters for classification of traversable terrains in an intelligent robot learning system for realtime terrain categorization.

2013-2014 IBM Canada Ltd. Markham ON, Canada

Software Developer, Release Engineering

Design, developed and tested the *Open Source Dependency Extraction* framework in Java to identify open source code and security vulnerabilities in product codebase.

Publications

X. Yang, A. Agrawal, K. Sreenath, N. Michael, "System-Agnostic Adaptive Teleoperation for High-Dimensional Systems". In *Special Issue on Learning for Human-Robot Collaboration, Autonomous Robots*. [In Review.]

X. Yang, K. Sreenath, N. Michael, "A Framework for Efficient Teleoperation via Online Adaptation". In *Proceedings of 2017 IEEE International Conference on Robotics and Automation (ICRA*), Singapore. May 2017. pp. [pdf]

X. Yang, K. Sreenath, N. Michael, "Online Adaptive Teleoperation via Incremental Intent Modeling". In *Proceedings of the Companion of the 2017 ACM/IEEE International Conference on Human-Robot Interaction (HRI'17)*, Vienna, Austria. Mar. 2017. pp. 329–330 [pdf]

S.C.C. Shih, I. Barbulovic-Nad, **X. Yang**, R. Fobel, and A.R. Wheeler, "Digital microfluidics with impedance sensing for integrated cell culture and analysis". In *Biosensors and Bioelectronics*. Oct. 2013, vol. 42, pp. 314–320. [pdf]

Activities

Teaching Assistant, 16-299 Introduction to Feedback Control Systems, CMU 2016-2017 Class Rep, RoboOrg (Robotics Institute graduate student organization), CMU

2013-2015 Executive Chair, Galbraith Society, University of Toronto

Skills

Systems Linux/Unix

Languages MATLAB, Python, C++, C, familiar with Java

 $\textbf{Software} \qquad \text{ROS, Git, } \LaTeX.$