

Ruoyang 'Alex' Xu

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Education

Carnegie Mellon University

Master of Science in Robotics

– {ROBOField} in {LabName} advised by Dr. {ProfName}.

Pittsburgh, PA

August 2020 - August 2020 (expected)

Georgia Institute of Technology

Bachelor of Science in Computer Engineering, GPA 3.88/4.0

– Minor in Robotics, and Computing and Intelligence

Atlanta, GA

August 2016 - May 2020

Skills

Concepts: Motion Planning, Navigation, Computer Vision, Machine Learning, Computer Architecture

Programming: Wrote a lot: Python, C++, MATLAB; Knows: C, Julia; Coursework: VHDL, Java

Frameworks: Linux/Unix, Git, ROS, PyTorch, Keras, CMake, Eigen.

Publication: J. S. Smith, **R. Xu**, P. Vela., egoTEB: Ego-centric, Perception Space Navigation Using Timed-Elastic-Bands, 2019, ICRA 2020.

Relevant Coursework

Introduction to Automation and Robotics: Fundamentals in robotics from representation through manipulator kinematics, and control; End-effector planning through jacobian.

Machine Learning: Introduction to ML that covers **randomized optimization, supervised, unsupervised, and reinforcement learning**. Open ended projects for each topic for comparative algorithmic performance analysis and characteristic evaluation.

Intro to Computer Vision: Foundation of **classical computer vision**, Harris feature detector, SIFT feature descriptor, bag of words classification; stereo pose estimation; deep learning for classification in computer vision.

Perception and Robotics: Mobile robots **navigation stack** from perception (label recognition and classification) to execution (probabilistic localization and planning)