Sean J. Wang

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EDUCATION

PhD, Mechanical Engineering 2018 - Present
Carnegie Mellon University
GPA: 4.0

BS/MS, Mechanical Engineering 2013 - 2018
University of California, Santa Barbara
BS Major GPA: 3.97
MS GPA: 4.0

SKILLS

Software & Programming:
C++, Python, PyTorch, ROS, SolidWorks, MATLAB, Arduino, CATIA, LabVIEW,

Fabrication:
Machine Shop Equipment, Wood Shop Equipment, Laser Cutting, 3D Printing

Electronics:
Basic Circuitry, Soldering, Standard Comm. Protocols (UART, I2C, etc.),
Sensor and Actuator Integration

HONORS & AWARDS

TCS Presidential Fellowship 2018 - 2019
Tirrell Award for Distinction in Undergraduate Research 2017
UCSB Junior Design Fair - Most Marketable Product 2016
1st Place, UCSB Robotics: Design RoboRat Competition 2015

PROJECTS

Autonomous Rough Terrain Traversal 2019 - Present
Developing sample efficient reinforcement learning algorithms and wheeled robots for rough terrain traversal

Environmental Sampling Robot 2019 - Present
Developing an autonomous robot to measure contaminants in remote locations to assess contaminant distribution of the environment for future remediation.

Contact Localization for Transparent Robots 2018-2019
Developed a method for transparent robots to localize contact points between itself and foreign objects.

Advanced Imaging Drone 2016 - 2017
Modified an unmanned aerial system allowing it to fly though forest canopy environments to locate endangered birds.

Cloud-Supported Coverage Control for Persistent Surveillance Missions 2016
Created coverage control algorithms for networks of autonomous mobile sensors.

Remote Bike Lock Design 2016
Designed and built a prototype remote controlled bike lock with locating features

which won "Most Marketable Product" at the UCSB Junior Design Fair.

RoboRat Design 2015
Designed and built a robot capable of autonomously navigating a course, picking up foam blocks, and stacking them on a wall

TEACHING EXPERIENCE

24-352 (Dynamics, Systems & Controls) TA 2020
Carnegie Mellon University

ME 10 (Graphic, CAD & Design) TA 2018
University of California, Santa Barbara

ME 156B (Mech. Eng. Design II) TA 2018
University of California, Santa Barbara

ME 156A (Mech. Eng. Design I) TA 2017
University of California, Santa Barbara

ME 155A (Control System Design) Reader 2017
University of California, Santa Barbara

ME 179P (Robotics: Planning) Reader 2016
University of California, Santa Barbara

ME 179L (Robotics: Design) Reader 2016
University of California, Santa Barbara

INDUSTRY EXPERIENCE

Mechanical Engineer Intern 2017
Strand Products, Inc.

Mechanical Engineer Intern 2016
Continental Advanced Lidar Solutions US, Inc.

PUBLICATIONS

1. Sean Wang, Valeria Nava, Nicholas Jones, Gregory Lowry, and Aaron M. Johnson. Ground-based robots for soil collection and analysis. In *American Geophysical Union (AGU) Fall Meeting*, December 2020
2. Sean J. Wang, Ankit Bhatia, Matthew T. Mason, and Aaron M. Johnson. Contact localization using velocity constraints. In *Proceedings of the IEEE/RSJ Intl. Conference on Intelligent Robots and Systems*, Las Vegas, NV, Oct. 2020
3. Sean J. Wang, Ankit Bhatia, Matt T. Mason, and Aaron M. Johnson. Contact localization for transparent robots using velocity constraints. In *Dynamic Walking*, May 2020
4. Letong Wang, Sean Wang, and Aaron M. Johnson. Traversability analysis for highly maneuverable wheeled robots. Technical report, CMU Robotics Institute Summer Scholars Working Papers Journal, 2019
5. Jeffrey R Peters, Sean J Wang, and Francesco Bullo. Coverage control with anytime updates for persistent surveillance missions. In *2017 American Control Conference (ACC)*, pages 265–270. IEEE, 2017
6. Jeffrey R Peters, Sean J Wang, Amit Surana, and Francesco Bullo. Cloud-supported coverage control for persistent surveillance missions. *Journal of Dynamic Systems, Measurement, and Control*, 139(8), 2017