Chendi Lin

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EDUCATION

CARNEGIE MELLON UNIVERSITY
School of Computer Science
MS in Robotics
Full Research Assistant Scholarship in: Advanced Agent-Robotics Technology Lab
May 2020 | Pittsburgh, PA
Overall GPA: 4.13/4.0

UNIVERSITY OF ILLINOIS, AT URBANA - CHAMPAIGN
College of Engineering
BS in Engineering Mechanics
Minor: Computer Science & Math
Conc. in Computational Mechanics
May 2018 | Urbana, IL
Overall GPA: 3.97 / 4.0 (Highest Distinction)

PUBLICATIONS

C.Lin et al., Online Connectivity-aware Dynamic Deployment for Heterogeneous Multi-Robot Systems. In ICRA 2021.

C.Lin et al., Attitude Control System Complexity Reduction via Tailored Viscoelastic Damping Co-Design. In 2018 AAS GNC, Breckenridge, CO, Feb 2018.

C.Lin et al., Efficient Optimal Surface Texture Design Using Linearization. In ISSMO 12th World Congress of Structural and Multidisciplinary Optimisation, Braunschweig, Germany, Jun 2017.

SKILLS

PROGRAMMING
C++ • Matlab • Python • ROS
Java • LaTeX • Clojure • C#

COMPUTER-AIDED DESIGN
Creo • Solidworks • Simulink

AWARDS

2018 Bronze Tablet (University Honor)
2018 Fred B. Seely Award
2017 Seichi Konzo Memorial Award
2016 Honorable Mention in MCM

WORK EXPERIENCE

MATHWORKS Software Engineer 2
August 2020 - Present | Natick, MA

- Work as one of the main contributors in Simulink Code Inspector team
- Design and migrate a new storage infrastructure to improve the computational efficiency and backwards compatibility
- Own the responsibility of developing new features and maintaining the inspection for MATLAB Function Block, e.g., support of eps function, manual review option, etc.
- Analyze the failure data of Boeing project

UBER ATG Software Engineering Intern
May 2019 – August 2019 | Pittsburgh, PA

- Worked on path optimization in motion planning team
- Designed and implemented path planner V2.0 used in the car currently
- Improved the robustness of the path planner to fix the failure modes. The planning tests that were impossible to solve previously can be passed now

NATIONAL CENTER FOR SUPERCOMPUTING APPLICATIONS
Research Internship
August 2016 – May 2018 | Urbana, IL

- Utilized the entropy change in phase transformation of shape memory alloy as environmental friendly refrigerators
- Adopted various optimization algorithms, fitting methods, and Ising model simulation to find the most efficient alloy composition with Python

ACADEMIC PROJECTS

MOTION PLANNING COURSE | "Guided RRT-Connect"
August 2019 – December 2019 | Carnegie Mellon University

- Applied Multi-armed Bandits and Reinforcement Learning (DDPG) to improve the efficiency of RRT-Connect
- Compared the performance of both methods with the original RRT-Connect numerically and in simulation

RESEARCH EXPERIENCE

MOTION PLANNING FOR MULTI-ROBOT SYSTEMS
Advised by Prof. Katia Sycara
September 2018 – May 2020 | Carnegie Mellon University

- Studied motion and behavior planning problems for multi-robot and swarm systems with various graph and tree searching methods
- Generating plans that restrict the risk of energy depletion while guaranteeing the targets' visitations
- Developed a novel connectivity-aware multi-robot redistribution approach that accounts for exploration, dynamic task allocation, and connectivity maintenance for a heterogeneous robot team
- Simulated the planning results on RVIZ and Gazebo ROS