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 (MechE Scholarship)
2017 Seichi Konzo Memorial Award (MechE Scholarship)
2016 Honorable Mention in MCM (Mathematic Contest in Modeling)

WORK EXPERIENCE

WAYMO (EX GOOGLE'S SELF DRIVING CAR PROJECT)
Software Engineer
Feb 2022 - Present| San Francisco, CA

- Work on behavior planning of autonomous trucks
- Build a new technology framework that unifies the planning of robotaxi and trucking
- Serve as one of the main persons of contact for route selection debugging issues and feature requests. Improve the performance and reliability of route selections
- Inject features to improve the safety and smoothness of lane change behaviors both on freeways and urban streets. Boost the capabilities of lane change completion by 10% - 20%
- Design, implement, and test the new collision and kinematic features in route and path selection that reduce 50% of collision events, 60% - 80% harsh reactions like swerves and harsh brakes, and other safety related metrics
- Lead the trucking severe events triage team

MATHWORKS Software Engineer 2
August 2020 - Feb 2022 | Natick, MA

- Worked as one of the main contributors in Simulink Code Inspector team
- Designed and migrated a new storage infrastructure to improve the computational efficiency and backwards compatibility
- Owned the full responsibility of developing new features and maintaining the inspection for MATLAB Function Block, e.g., support of eps function, manual review option, etc.

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

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. 20 times faster than state-of-art mixed integer non-linear optimization solver and 300 times faster than Genetic Algorithms with the same performance
- Simulated the planning results on RVIZ and Gazebo ROS
- Published a paper on ICRA 2021 and serves as a reviewer in the area of multi-robot system task allocation and motion planning