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.

C.Le et al.,EucliDreamer: Fast and High-Quality Texturing for 3D Models with Stable Diffusion Depth. Poster in CVPR 2024.

INTERNSHIP

UBER ATG
Path Optimization Team
May 2019 – August 2019 | Pittsburgh, PA
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

AWARDS

2018 Bronze Tablet (University Honor)
2016 Honorable Mention in MCM (Mathematic Contest in Modeling)

WORK EXPERIENCE

AUTOX Software Engineer, Behavior Planning
Mar 2023 - Present| San Jose, CA

- Lead of Trajectory Selection that scores and picks the best trajectory
- Worked as one of the founding members of the data-driven planner efforts, designed and developed a new generation of machine-learning and search-based planner. Introduced a new model that outputs high-quality robot car trajectories by leveraging insights from human expert driving logs
- Led the ML-based selector project that dynamically quantifies the quality of generated trajectories
- Played a pivotal role as one of the primary contributors to the Inverse Reinforcement Learning project, which focused on learning the search costs used in the planner and trajectory scoring. Improve the chance of selecting human expert trajectory from 82% to 95%

WAYMO (EX GOOGLE'S SELF DRIVING CAR PROJECT)
Software Engineer, Behavior Planning
Feb 2022 - Mar 2023| San Francisco, CA

- Worked on a new generation of behavior planner of autonomous robotaxi and trucks
- Served as one of the main persons of contact for route selection debugging issues and feature requests. Improved the performance and reliability of route selections
- Injected 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%
- Designed, implemented, and tested 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

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

- Worked as one of the main contributors in Simulink Code Inspector team
- 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.

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
- 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