

Chendi Lin

chendil@alumni.cmu.edu | <https://chendilin.com>

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.

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)
- 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

AUTOX Software Engineer, Behavior Planning

Mar 2023 - Present | San Jose, CA

- Worked as one of the founding member 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
- Initiated and led the trajectory evaluation component that scores and picks the best trajectory
- 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
- 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.

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