Eric Lin

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EXPERIENCE

CRUISE | Senior Applied Scientist
Aug 2022 - Present | San Francisco, CA, USA

- Owned multiple iterations of a new guardrail system for the Cruise planner output, as well as leading the development on the evaluation tools to measure success and impact. This new system uses various high precision inputs to guard against unsafe and uncomfortable Cruise car behavior, solving up to 80% of problem scenarios per release.
- Implemented data metrics and visualization tools which allowed the removal of up to 60% of some training datasets in our prediction models without affecting performance. This saves costs on data storage, decreases training time, and improves evaluation reliability.
- Implemented new loss functions and uncertainty representations in our predictions models, leading to improved model metrics (L2 and log-likelihood) and up to 20% safety increases in targeted datasets.
- Designed and experimented with heuristic anomaly models for out of distribution predictions. These new policies resulted in improved safety metrics which guard against rare events our models struggle to predict.

CRUISE | ML / Robotics Engineer
Aug 2020 - July 2022 | San Francisco, CA, USA

- Worked on heuristic models and predictions to improve the Cruise car's behavior around occlusions, improving safety and comfort in the case of emerging vehicles and pedestrians.
- Shipped multiple releases of our prediction models by improving uncertainty representations and implementing new loss functions, leading to improved model accuracy.
- Created metrics and dashboards to track model and heuristic performance post releases.

CRUISE | Software Engineering Intern
Sept 2019 - Dec 2019 | San Francisco, CA, USA

- Developed new metrics dashboards for the perception team's core metrics, allowing for faster and more trustworthy evaluation of new changes.

HUAWEI | Software Engineering Intern
Jan 2019 - Apr 2019 | Markham, ON, CA

- Researched techniques to improve model accuracy on distributed and single node machine learning systems.
- Helped to implement methods to ensure data parity between nodes during training.

AECON RESEARCH TEAM | Software Engineering Intern
Sept 2018 - Aug 2018 | Waterloo, ON, CA

- Developed tools and features to integrate digital verification of construction components in fabrication plants.
- Implemented a new verification process for the alignment of construction pipes, published in a civil engineering journal.

PROJECTS

BAD MAHJONG | Online Game
June 2020

Bad Mahjong is an online multiplayer Mahjong game for up to four players. The game uses a Flask backend, a React frontend, and socket.io to create lobbies, invite friends, and connect players in a match of Mahjong.

EDUCATION

UNIVERSITY OF WATERLOO | BMath in Computer Science
Class of 2020 | Waterloo, Ontario, Canada

SKILLS

LANGUAGES
Python • C++ • SQL • Javascript • Bash

TECHNOLOGIES
Git • Numpy • Pandas • Pytorch • Matplotlib • Tensorflow • React • Bazel