JEREMY ONG

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EDUCATION

Pittsburgh, PA **Carnegie Mellon University** **August 2016 – May 2020**

- B.S. in Computer Science, Minor in Machine Learning, Cumulative GPA: 3.81/4.00
- Coursework: Computer Systems, Parallel Computer Architecture and Programming, Programming Language Theory, Complexity Theory, Machine Learning, Computer Security, Graph Theory, Operating Systems

LANGUAGES AND TECHNOLOGIES

- C++, Python, CUDA, Bash, Javascript, SQL
- Pytorch, Tensorflow, Google Cloud, ROS, eBPF, Flask, Node.js, MongoDB, React, Qt

EMPLOYMENT

Senior Software Engineer **Cruise** **July 2022 – March 2023**

- Owned the Cruise ML runtime which executes all 50+ ML models in the autonomous vehicle stack. Oversaw cross functional feature prioritization, technical support, and knowledge sharing.
- Lead three engineers to deliver a solution to centralize metadata/metrics of deployed ML models at Cruise. Project was conceived at an internal hackathon where it won two awards: People's Choice and Best Demo.
- Coordinated weekly team deep dive sessions.
- Mentored an intern to enable specification of max size of dynamic dimensions in the Cruise ML runtime.

Software Engineer **Cruise** **June 2020 – July 2022**

- Wrote performant C++/CUDA programs which implement perception algorithms including mean shift clustering and voxelization to unblock ML model deployment.
- Optimized memory usage in the Cruise ML runtime saving over 1 GB in GPU memory plus more in future model deployments by adding static buffer sharing capabilities. Savings in both simulation and deployment.

Software Engineer, Intern **Cruise** **May 2019 – August 2019**

- Investigated and adapted deep learning compiler technologies for ML inference.
- Designed and implemented shape propagation in the Cruise ML runtime.

Software Engineer, Intern **Aurora** **June 2018 – August 2018**

- Enabled more effective fleet management by developing the core messaging platform.
- Configured automatic hyperparameter tuning for training of perception models.

Research Assistant **CMU Center for ML and Health** **June 2017 – August 2017**

- Developed on GenAMap, a visual machine learning platform for genome studies.
- Architected aggregation pipeline for data transfer between backend and frontend.

PROJECTS

- **Facebook Discourse** *Facebook Global Hackathon* (November 2017) A debate platform that fosters productive discourse. *Winner*: First place out of 20 finalist teams from 11 different countries.
- **ResistAR** *TartanHacks* (February 2017) An educational augmented reality circuit solver app using Unity. Designed algorithms which process 3D coordinates of physical components to solve for current, voltage, and power and create an electron flow visualization overlay. *Winner*: Carnegie Mellon Grand Prize.

TEACHING EXPERIENCE

- **Teaching Assistant for Complexity Theory** (January-May 2020) Instructed students in complexity theory concepts.
- **Teaching Assistant for Intro to ML (Master's)** (August-December 2018) Drafted assignments and tests, coordinated course logistics, and taught recitations.