

Hao Yi Ong

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185 Berry Street
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Experience

Data Scientist, Lyft Inc. — 2016–Present

Own the machine learning models on the fraud team. Lead experimental design in the context of fraud; e.g., minimizing complex interactions between business rules and ML models. Develop, re-evaluate, and standardize core business metrics. Developed and productionized the deep learning NLP model for support and safety ticket routing — the first deep learning model at Lyft.

Graduate Research Assistant, Stanford Intelligent Systems Lab – 2014–2015

Developed a distributed collision avoidance system as part of NASA Ames’s unmanned aircraft traffic management program (UTM). Applied several machine learning and stochastic optimization techniques and developed a novel algorithm for a large optimal control problem.

Implemented a prototype traffic management server with Apache Spark and Kafka for Ames.

Best paper at the 34th IEEE/AIAA Digital Avionics Systems Conference out of 400 submissions.

Graduate Research Assistant, Volkswagen Automotive Innovation Lab – 2014

Developed a decentralized model predictive control algorithm for self-driving cars. Applied convex optimization techniques to collision avoidance problem and simulated algorithm in Matlab and C. Best of session award at the 2015 IEEE American Control Conference.

Skills

Proficient

Python, Scala, Apache Spark, PostgreSQL, Julia, Matlab, LaTeX

Experienced

C, C++, Java, CUDA, Apache Kafka, Arduino, Javascript

Education

Stanford University

MS Mechanical Engineering (accelerated Coterminal program), 2014–2015 GPA 4.06 / 4.0
concentration in Optimization and Controls

BS Mechanical Engineering/Computer Science with Distinction, 2011–2015 GPA 4.04 / 4.0
concentration in Artificial Intelligence

Coursework

Machine Learning (CS 229, A+), Algorithms (CS 161, A+), Stochastic Optimization (CS 238, A+),
Convex Optimization (EE 364A/B, A/A), Distributed Algorithms and Optimization (CME 323, A)

Awards

Frederick E. Terman Engineering Scholastic Award – 2015

Tau Beta Pi – 2014

President’s Award for Academic Excellence – 2012

Selected publications

H. Y. Ong and M. J. Kochenderfer. Markov Decision Process-based distributed conflict resolution for drone air traffic management. *Journal of Guidance, Control, and Dynamics*, vol. 40, iss. 1, pp. 69–80, 2017.

H. Y. Ong and J. C. Gerdes. Cooperative collision avoidance via proximal message passing. *Proceedings of the American Control Conference (ACC)*, Jul. 2015.

H. Y. Ong, K. Chavez, and A. Hong. Distributed deep Q-learning. *Preprint*.
<http://arxiv.org/abs/1508.04186>.