

Self-Introduction

I am a Ph.D. candidate in Electrical and Computer Engineering at University of Michigan. My research lives primarily at the intersection of machine learning, statistics, and optimization. I have worked on a variety of projects in ML with topics including fairness, deep generative models, nonparametric statistics, and Riemannian optimization. My work has been published in top venues such NeurIPS and AAAI.

In the sixth and final year of my PhD, I have become the primary caretaker of my niece and nephew. To care for my family, I have made the decision to take a leave of absence from my PhD program. My primary focus at this time is working to support my niece and nephew. If I complete the PhD, it will be remotely and in my spare time, so it will not interfere with my ability to work.

With 7+ years of experience in machine learning and 10+ years experience in systems science and software development, I believe I have a lot to bring to TikTok. Not to mention, TikTok happens to be my favorite social media platform, and the only one that I use. I believe it is an incredibly valuable resource for communicating ideas and sharing news that is not covered by mainstream outlets. It would truly be an honor and delight to be involved in the development of such an important platform.

McLouth Waterfront Alliance (Fall 2021 - Spring 2022)

I led the installation and monitoring of an air quality sensor network in a Metro Detroit residential area. The network measured PM 2.5 and VOC concentrations, which were made publicly available in real-time on the web via a map-based dashboard. This community, Riverview, is home to a large landfill that is surrounded by neighborhoods on all sides. Despite this, the Riverview city council proposed expanding the landfill, which would have further polluted the town's air, increasing health risks for the population. This effort, in conjunction with other public awareness campaigns, ultimately prevented the landfill expansion from being approved.

Amazon (Summer 2021)

I led a project incorporating self-attention into the architecture for Alexa Speaker ID, resulting in a 1% increase in accuracy.

Graduate Student Research Assistant (2017 - Present)

I am currently a Ph.D. student in Electrical and Computer Engineering performing research in machine learning and optimization under the guidance of Clayton Scott and Laura Balzano. My primary research projects have spanned statistical learning theory, unsupervised learning, and

dimension reduction. I have also worked on projects related to deep learning and image processing.

ExxonMobil (Summer 2017)

I led the complete upgrade and installation of a control system for a tank farm and distribution hub of a major US oil pipeline. I was the only intern in my department to carry my project to completion. My responsibilities included reverse engineering a control system, sourcing parts, writing control logic, conforming the system to modern safety requirements, and overseeing installation on site. I was offered a full time position in R&D, but elected to go to graduate school instead.

IBM (Summer 2015)

Developed an internal web application for analytics, tracking, sourcing, and repair assignment of mainframe CPU design errors. The project involved moderate front-end and extensive back-end development. Upon completion, the application was adopted for widespread use by the hardware design team.

Honda Aircraft Company (Spring 2015 & 2016)

I completed a two-semester Co-op at Honda in spring of 2015 and 2016. During my first semester, I designed a zero power-trickle fuel panel circuit and display and assisted in the design of FCC type certification procedures. During my second semester, I designed and built from scratch an application for automatic fault diagnosis and service recommendation for use by aircraft technicians. I was the only co-op to receive perfect scores on my performance reviews both semesters.