

Personal History Statement — Why I want to pursue a graduate degree

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As someone who previously built a startup receiving a 5-figure acquisition, leaving entrepreneurship and focusing solely on research seems like an odd choice. However, it is through my entrepreneurial experiences that piqued my passion for research. My rationale behind this decision was based around *premature optimization*, i.e., if the end goal is to make a significant impact in the world, I should be thinking long-term. Machine Learning models that truly generalize will be one of the most important contributions to science.

During my first 2.5 years in undergrad, I founded HitchHike¹, a long-distance ridesharing platform for college students. Initially, I was oblivious to the difficulties that lay ahead of being a student-preneur: attending school while simultaneously working on a startup. Some of my most difficult periods involved working on HitchHike. Yet, seeing people gain value from it alleviated any conceivable setback.

In the early days, very few drivers used the platform due to a lack of trust. To address this, I traveled with drivers to arbitrary locations so they would have a positive experience using HitchHike. Once, I traveled with a driver from Virginia to Florida, a 12-hour road trip! Having convinced her to share her experiences with her friends, I immediately took a flight back to Virginia. This highly unscalable approach was surprisingly effective as we garnered over 25,000 miles on the platform within just a few months after our launch. HitchHike taught me how I could solve any problem, regardless of its complexity, as long as I put in the work—the caveat, of course, being the coronavirus.

In mid-2020, COVID-19 took away all user demand overnight, thus coming to a painful realization that HitchHike wouldn't succeed as a startup. Reflecting on what had happened, I talked to Micheal Seibel, CEO of Y Combinator, who encouraged me to work on something astronomically bigger. This led me to go knee-deep into Machine Learning research. Despite having funding opportunities from Justin Kan (founder of Twitch) and investor Garry Tan, I was drawn more to the complexities in distribution shifts and generalization. Ultimately, I can make a significant contribution as a researcher by developing new methods to increase robustness in Deep Learning models.

It became clear that I wanted to pursue a career in research when I turned down Kleiner Perkins (KP) fellowship, one of the most prestigious internships in the country, for a research role in graph representation learning at Qualcomm. This was one of the toughest decisions I have had to make. Everyone I spoke to persuaded me to rescind my offer with Qualcomm and join KP instead. My justification was based on which option would minimize regret in the long term. It was unclear, at the time², if KP would have served my goals of solving critical challenges in Machine Learning. At Qualcomm, I had the opportunity to work on a nascent research direction in interpretable Graph neural networks. Over the course of the internship, I was able to gain invaluable insights into the importance of interpretability in ML systems. This line of research, had it not been for Qualcomm, led me to work on structure learning: understanding data's inherent structural dependencies, which led to submission at ICML 2022. It is with these reasons that I intend to pursue a Ph.D. in EECS at MIT.

¹ Press coverage: tinyurl.com/hitchhike

² I realize the impact mentorship can have on a person's career. I'll be joining Kleiner Perkins fellows program in 2022 as a core Machine Learning intern at Infinitus Systems. It all worked out in the end!