The doorway of my daycare still appears clearly in my mind twenty-one years later. Around 7:30 in the morning, my mom would set me down at the front door of a one story stucco house in San Jose, and an auntie in a matching floral print rayon pajama set would scoop me up. I'd look over her shoulder as she carried me inside and watch my mom hurry back into her car, hoping to beat the morning rush hour. As soon as the door closed behind us, the cacophony of children crying, pots clanging, and aunties chattering filled the small space. Throughout the day, I would circulate amongst various aunties; one would feed me, another would wash me, and one would be there to comfort me. These aunties seamlessly shared the multiple roles of parenting, making sure that we were all well looked after. One by one, we'd be handed back to our parents in the evening, properly worn out, well-fed, and washed. As my mom carried me back to the car I would be almost asleep, looking over her shoulder towards the door knowing that tomorrow morning, I would be back again.

Daycare was my first memory of infrastructure. Infrastructures, or arrangements of interconnected elements, provide the necessary foundation to support complex systems. With the COVID-19 pandemic, the importance of childcare infrastructures is increasingly evident. Informal daycares run by relatives, like the one from my childhood, are an important feature of immigrant communities, one that many working parents rely on for affordable childcare. When existing structures fail to provide the support needed, communities come together to build their own: they engage in a process known as infrastructuring. Although it wasn't until graduate school that I learned the history, politics, and theories of infrastructuring, I grew up and engaged with these practices throughout childhood and education. **As a graduate student, I draw on my own experiences with infrastructuring to understand how marginalized communities improvise around infrastructural breakdowns and how tools can be created to support their efforts.**

During my undergraduate years at the University of California, Santa Barbara (UCSB) I worked as a resident assistant (RA) in a Women in STEM community. As an RA, I saw how access to support networks influenced behaviors and outcomes for my peers. This motivated me to learn more about how these networks function and could be leveraged to empower vulnerable populations. Although most of my female residents were in the same STEM majors and took the same classes, I noticed they did not regularly socialize with each other. **Recognizing the role of community in creating solidarity, I collaborated with others to create the Women in STEM Mentorship program.** This social, academic, and professional organization opened doors for research opportunities, facilitated study groups, and most importantly, created a support system for women in STEM. While I did not have a word for it, I was already engaging in the practice of infrastructuring through developing these networks of community support. By developing knowledge-sharing networks that increased access to resources, my interest in understanding how social networks form and are used to distribute information was piqued.

Wanting to see social networks functioning in other contexts, I pursued an independent economics research project analyzing how new graduates utilize online professional platforms to build professional networks during my senior year at UCSB. **I analyzed how new graduates utilized LinkedIn's affordances, specifically the ability to describe work experiences and indicate skills, to convey their qualifications.** Working independently, I scraped raw HTML output from LinkedIn profiles, engineered this semi-structured data into tabular features, and estimated ordinal logistic regression models to compare skills and work experience as predictors of job attainment. This project sparked my interest in workers, and how they developed infrastructures through online professional networks, and how platform affordances could facilitate their efforts. I brought this interest with me as I began graduate school at the University of Colorado Boulder in 2020.

Dr. Brian Keegan, a computational social scientist and professor in CU Boulder's Information Science department, recognized my interest in understanding the role of social networks in providing key support structures. As my advisor, he has helped me to develop a theoretical understanding of how social networks, both offline and online, function as essential elements of infrastructures for underserved communities. During my first semester of graduate school, Dr. Keegan encouraged me to submit a position paper to the Civic Technologies workshop at CSCW 2020. **In writing this peer-reviewed paper, I furthered my knowledge of how workers engage in infrastructuring practices through the use of technologies that facilitate information sharing.** This theme of workers performing extra labor to develop critical infrastructures emerged again, in a completely different context, during my RAship in the Spring of 2020.

My RAship aimed to create design wireframes for workflow management systems with explainable AI (XAI) in the context of maintenance work. To understand how these systems should be designed, my co-investigator and I partnered with the CU Boulder maintenance department. We conducted over twenty, hour-long interviews with experts across the CU maintenance team, utilized an inductive coding approach, developed a codebook, and translated themes into design wireframes for a new workflow management system. Our key finding was that workers had already built their own rich and complex infrastructures to supplement the current brittle and restrictive workflow management system. Therefore, our design wireframes focused on integrating workers' informal systems, rather than replacing them with XAI features. **Through this project, I grew my skill set as a qualitative researcher and learned how to engage community members as partners, rather than just participants, in the research process.**

My subsequent projects are also community based. I partnered with a local Boulder food delivery co-operative during the summer of 2021 for a research project seeking to understand the key elements for the viability of sustainable business models for food delivery service. Working with a cross-institutional research team, led by Dr. Andrés Monroy-Hernandez at Princeton University, we are conducting over 40 interviews with stakeholders across the food delivery service industry. As the research team grew to encompass over 10 people from four different institutions, my role shifted from a researcher to a research project manager. **I now oversee two undergraduate research assistants at Princeton, handle the logistics of reaching out to study participants, maintain correspondence with our community partner, and regularly lead research team meetings.** This project will yield design recommendations for food delivery business models that prioritize equitable treatment of all stakeholders involved.

My current research project, developing data narratives in partnership with the local Colorado rideshare and delivery drivers union, won an $8,000 fellowship award from the CU Engage Program. The CU Engage program provides funding and support for community based research that addresses public challenges through equity-oriented partnerships. I partnered with Colorado Independent Drivers United (CIDU) to help them address the data voicelessness of rideshare drivers–their inability to develop narratives reflecting their lived experiences due to a lack of structured data they can draw upon. This project seeks to understand how rideshare and delivery drivers can engage in infrastructuring practices, through the use of technical tools to support the necessary data collection processes. **I will build upon the strong relationships that I have established with CIDU throughout my GRFP project. Working closely with CIDU has enabled me to observe the extent to which drivers perform unremunerated labor to build the support structures necessary for them to make their work "work" for them. Broader Impact:** Reflecting on my past experiences living in, building, and studying infrastructures I recognize the common theme of invisibility. The infrastructures that scaffold our everyday lives often go

unnoticed. Yet, their existence is critical, especially for underserved communities, like my immigrant community. These communities are often excluded from infrastructures such as: daycare, professional networks, and traditional employment arrangements due to economic, political, and social factors. However, these communities are not passive agents. They take action and develop their own critical infrastructures through the sharing of information, resources, and support. In doing so, they are able to create the hidden scaffolding that props up their community.

Future Goals: My future work, informed by my positionality as a member of the immigrant community, seeks to facilitate underserved groups' infrastructuring practices in recognition of their importance in ensuring the well-being of these communities. Following completion of my PhD, I plan to pursue a tenure track position and continue this work. Based on my prior research experience, positionality as a child of immigrants, strong relationships with community partners, and a cross-institutional network of academic mentors I am confident that I will be well-positioned to conduct research supporting community infrastructuring practices.