I aim to be a software engineer and researcher whose work includes data science and artificial intelligence. I'm looking for internship and research opportunities to help me apply the skills developed throughout my bachelor's degree in data science before pursuing my master's in computer science. I hope this experience will reinforce my interest in automation, software engineering, robotics, and autonomous vehicles. Furthermore, I hope to make insightful contributions and make a positive impact during the internship.

My bachelor's in data science training at the University of Minnesota Twin Cities has equipped me with a strong foundation in computer science, mathematics, and statistics. The course Discrete Structures and Algorithms enlightened me about the importance of code complexity. In Computer Systems, Software Engineering, and Database Systems, I discovered how computers work from the inside and how I can apply this knowledge to write more efficient code and queries. In Linear Algebra, Machine Learning Fundamentals, and Intro to Artificial Intelligence, I learned about the main algorithms used in Supervised, Unsupervised, and Reinforcement Learning and how to optimize them. During the spring semester, I will take technical courses in computer vision, deep learning, and natural language processing. I have gained valuable experience working and analyzing large amounts of real-world data using statistics libraries and environments such as Pandas, Numpy, PyTorch, and R. These classes inspired my interest in artificial intelligence and I hope to pursue a master's in this field starting in the Fall of 2025, following my graduation in May (I have already been accepted into the Master's in Data Science program at the University of Minnesota Twin Cities, however, I am in the process of applying to the Computer Science program. I expect it to take me one year to complete).

Outside the classroom, I have also tried to gain more experience. During the summer of 2025, I was given the chance to participate in a competitive research internship (REU) sponsored by the National Science Foundation (NSF), in collaboration with Lawrence Technological University and Michigan State University. During 8 weeks, I grew my knowledge of the autonomous vehicle industry and got hands-on experience working with automotive technologies such as computer vision and sensors. I developed self-drive algorithms for autonomous drive-by-wire vehicles. My team's research focused on developing new lane-following algorithms using computer vision and other machine learning algorithms. We also developed a roadside unit for a smart intersection and Vehicle to Everything (V2X) communication projects. All algorithms were tested on simulation and real vehicles, allowing me to learn ROS. We concluded the research in two papers which we submitted to ICRA 2025. The results showed that our algorithms were capable of improving traffic efficiency, safety, and comfort, and reduced acceleration and braking at intersections by up to 75.35% compared to a human driver. This experience grew my interest in research in autonomous vehicles, robotics, and transportation.

Additionally, during the fall of 2024, I conducted research through funding provided by the Undergraduate Research Opportunities Program (UROP). I learning more about applications of deep reinforcement learning for decentralized autonomous vehicle coordination, under the supervision of my professor Maria Gini. I was awarded a scholarship through the AAAI Scholar program to travel to the AAAI 2025 conference and present my paper, which was accepted at the MALTA workshop.

Finally, I also try joining technical clubs where I learn new skills and collaborate with other students. Currently, I'm a member of the IEEE club and I'm building a micromouse with other 4 students. My focus is to develop and optimize pathfinding algorithms (Dijkstra, A*, DFS, Floodfill) for autonomous maze-solving, both in simulation and on the real robot using Python and C++.

To sum up, I am enthusiastic about getting industrial experience while developing my technical skills in data science, software engineering, and robotics before starting my master's. Finally, my multicultural background will allow me to promote an inclusive and equal workspace by working, socializing, and networking with other participants and team members from around the world.