Growing up in a developing country where access to cutting-edge technology was limited, I faced significant challenges in pursuing higher education. My family, with modest means, often struggled to afford the resources needed for my academic endeavors. Despite these financial constraints, my parents, who did not have the chance to attend university themselves, have always encouraged me to pursue higher education. Their belief in the power of knowledge fueled my determination to overcome these obstacles. I am the first generation in my family to pursue a Doctor of Philosophy, driven by a desire to become an independent researcher. I believe that earning a Ph.D. will enable me to collaborate with leading experts in the field and ultimately contribute to improving the technological landscape of my home country. My passion for this goal was sparked by early exposure to the transformative potential of robotics—specifically autonomous systems, rescue operations, and augmented reality. In 2017, such technologies were beyond the reach of my country, but I dreamed of bringing them to life. To follow this dream, I worked tirelessly to gain admission to the Physics-specialized class at VNU-HCM High School for the Gifted, one of the most prestigious schools in Vietnam. There, I immersed myself in theoretical physics, robotics, and electrical engineering. As a gifted student, I learned to solve real-world problems independently, formulating hypotheses, providing logical solutions, and defending my ideas. I graduated with the highest honor in Physics, with a score of 9.9/10.

Upon entering university, I realized that artificial intelligence plays a crucial role in the development of advanced robotics. During my undergraduate studies, I focused on 2D perception, learning fine-grained semantic information from aerial imagery, which resulted in four publications in local conferences and journals. Determined to bridge the technological gap in my country, I joined VinAI Research as an AI Resident in my third year (beginning of 2022). At VinAI, I witnessed the emergence of language-driven 3D scene understanding—an area with only one pioneering paper following the introduction of CLIP by OpenAI—and recognized its significant importance in advancing robotics. This discovery led me to pursue the field rigorously.

Balancing my new role at VinAI with my final-year specialized courses was a considerable challenge. Adapting to a new job while diving into an unfamiliar field required me to read numerous academic papers and enroll in additional online courses on 3D computer vision. Time management became my greatest hurdle; to meet all my commitments, I often slept only three hours a day. This period demanded immense patience, self-motivation, and effective scheduling. After six months of relentless effort, I graduated early with high honors, ahead of the standard program duration at my university. One year after joining VinAI, I published my first paper, "Open3DIS" at CVPR 2024 — a significant milestone demonstrating the potential of integrating 2D and 3D data for enhanced robotic perception.

Continuing my journey, I worked on the other two projects of 3D scene understanding. These endeavors aimed to push the boundaries of 3D scene understanding, enabling robots to interpret their environments more comprehensively. Each project presented its own set of challenges, from technical complexities to resource limitations. By applying perseverance and innovative problem-solving, I overcame these obstacles and contributed to advancements in the field. Additionally, I had the opportunity to apply my expertise to societal needs through the "VinMap" project, a collaboration with Vietnam's Ministry of Information and Communications. This initiative focused on detecting misinformation in geographic map images to enhance cybersecurity and public awareness. Working on VinMap enabled me to contribute to my country's development while highlighting the power of technology for the greater good. The project garnered public support in Vietnam, pioneering AI advancements in governance.

These experiences have shaped my academic journey, reinforcing my commitment to robotics and AI. Overcoming the barriers of limited resources and time constraints in a developing country has taught me resilience and adaptability. I have learned to thrive under pressure and collaborate effectively within diverse teams. Pursuing a Ph.D. is the next pivotal step in my journey. It will enable me to deepen my expertise, engage with leading experts, and contribute to developing intelligent systems that perceive and interact with the world as humans do. I am eager to bring my background, experiences, and dedication to a community that values inclusion and innovation. I believe that my journey equips me to contribute meaningfully to the culture of belonging, respect, and excellence at **University Name.**