

## Personal Statement

People often say that the uniqueness of human intelligence lies in the ability to learn and use tools. From a young age, I have been deeply attuned to the interaction between the physical world and human intelligence. Instead of being confined to a classroom absorbing abstract knowledge, I have always loved and excelled in physical activities such as soccer, basketball, volleyball, and even skiing and skating. These experiences have heightened my sensitivity to the physical and dynamic principles of the world. During these activities, I often wondered how humans learn to master complex interactions with the physical environment. I marveled at how skilled basketball players could create new dribbling techniques to outwit defenders, and how soccer coaches designed strategies to outmaneuver opponents. This ability to solve problems creatively in competitive settings has always fascinated me.

I have been fortunate to pursue educational experiences that brought me closer to understanding these questions. My academic journey began with my participation in physics competitions, which ignited a strong interest in solving problems related to the physical world. This led me to initially major in physics at Peking University, where I focused on the universal laws of physics. During the first two years, I developed a solid foundation in understanding, calculating, and modeling fundamental physical principles, which later provided valuable insights for my work in physical simulation and control.

In my sophomore year, the rapid development of graphics and artificial intelligence technologies caught my attention. Through online courses and lectures, I began to understand how cutting-edge computer science and AI address challenges in the physical world, such as rendering in graphics, physics-based simulation, and character animation. Inspired by these advancements and their applications, I decided to switch my major to computer science to systematically study computational techniques that solve real-world problems.

However, transitioning to a new field came with challenges. Before switching majors, I had limited exposure to computer science courses, which left me with weak programming skills. Unlike my physics studies, which often involved solitary problem-solving, computer science required strong teamwork skills. From collaborating on building small QT applications for course projects to working in research labs with advisors and peers to turn ideas into projects, I gradually developed the ability to collaborate effectively. Over time, I also improved my technical and project architecture skills, eventually becoming someone capable of mentoring others. For example, in machine learning course projects, I took on leadership roles, helping teammates with less experience navigate the project workflow and division of tasks. Overcoming these challenges has reinforced my confidence and motivated me to tackle even greater challenges.

In research, my passion for sports continues to inspire me to contribute to embodied AI.

For instance, as a fitness enthusiast, I have been exploring ways to leverage large datasets and reinforcement learning techniques to analyze muscle activation for more efficient fitness training. This ties closely to my current work on physics-based character animation, where I address practical problems through self-motivated inquiry. I believe impactful research often originates from real-world needs rather than abstract ideation, and this pragmatic approach drives my work.

From the perspective of diversity, while I may not have the ability to address systemic challenges faced by underrepresented groups in higher education on a large scale, I strive to support individuals around me in achieving equitable opportunities. Growing up and studying in environments with a heavy focus on STEM, I have been acutely aware of the difficulties women face in gender-imbalanced settings. These imbalances often result in unequal treatment and, at times, biased expectations regarding their abilities. Unfortunately, such gender disparities are prevalent in fields like computer science. Throughout my education, I have supported peers struggling with these challenges, such as encouraging female classmates in high school to continue pursuing physics or mathematics competitions and mentoring younger university students who were new to programming but hesitant due to the environment. While these efforts were initially voluntary, they reflect a commitment to supporting underrepresented individuals in overcoming barriers in higher education.

It may be worth mentioning that, while I present myself as male socially and biologically, I possess a bit of dual-gender self-awareness. I neither reject nor feel conflicted about my male identity, but I also recognize a desire for a feminine existence, which may contribute to my empathy toward women. While this has not posed challenges for me personally, I am aware that many individuals in our field face significant struggles as members of underrepresented groups. This awareness motivates me to continue offering assistance to those in need. As a graduate student, potentially in roles such as a teaching assistant, I am committed to supporting and encouraging students from underrepresented backgrounds, ensuring they have equal opportunities. By upholding this principle, we can foster greater diversity and inclusivity in our community.