I am applying for graduate study in Computer Science at UCLA with a focus on embodied AI, specifically integrating reinforcement learning (RL) and data-driven methods to enable intelligent agents to acquire skills through real-world interactions. My interest lies in advancing AI systems that can understand and interact with the physical world, which has immense potential in fields like robotics and graphics. I am particularly excited about the opportunity to explore the intersection of AI and physical simulation, where I believe substantial breakthroughs can be made.

My experiences in the Visual Computing and Learning (VCL) Lab at Peking University and during my research internship at the University of Illinois Urbana-Champaign (UIUC) have deeply shaped my academic path. At VCL, under Professor Liu's guidance, I contributed to developing control strategies for humanoid agents by using RL to extract physical properties from motion capture and video data. I was involved in a project that explored the effects of fatigue in character motion, where I applied RL with generative models like GANs and VAEs to generate physically consistent motions. This work helped refine my skills in RL, data analysis, and the application of generative models in realistic motion generation.

My internship at UIUC with Professor Wang further expanded my expertise in embodied AI, where I focused on human-object interaction (HOI) control using RL. We successfully applied GAN-based architectures to tasks such as ball holding and dribbling, achieving adaptive policies for dynamic situations. Currently, I am exploring compliance control in HOI, which investigates how torque influences policies to ensure natural and stable task executions. These research projects have provided me with hands-on experience in generative models, RL policy training, and physical interaction simulations, and I have had the opportunity to collaborate with interdisciplinary teams, further honing my communication and teamwork skills.

UCLA's MSCS program stands out to me for its research-oriented approach and the opportunity to collaborate with faculty who are pioneers in AI and robotics. Professor Bolei Zhou's work in 3D generation and human action analysis combined with simulation closely aligns with my previous research goals. I am also very interested in Professor Yuchen Cui's work on data-driven imitation learning in robotics, which shares the same objective of learning agent-physical world interactions from data. Additionally, Professor Demetri Terzopoulos’ recent research on multi-agent systems is highly appealing to me.

All in all, UCLA’s collaborative environment and rich resources provide the ideal platform to deepen my knowledge and contribute to cutting-edge research in this field. After graduation, I plan to pursue a PhD or a career in a more industrial company where I can continue to push the boundaries of embodied AI.