## **YASEN JIA**

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**Subject:** Motivation Letter for 2025 ETH Robotics Summer School

## Dear Sir/Madam

I am Yasen Jia, a first-year Master's student in Intelligent Robotics and Systems at the Beijing Institute of Technology. With a steadfast commitment to advancing robotic technologies since my undergraduate studies, I am eager to apply for the 2025 ETH Robotics Summer School. This program represents an unparalleled opportunity to engage with cutting-edge research methodologies under the guidance of ETH Zurich's distinguished faculty and collaborate with global peers who share a passion for robotics innovation.

During my undergraduate studies, I spearheaded the development of a multi-modal mobile robot capable of wheeled, tracked, and legged locomotion. As the lead developer of the embedded electronic control system, I designed a hybrid architecture integrating STM32 microcontrollers with Linux-based real-time processing, overcoming technical challenges to ensure seamless mode transitions. This experience solidified my expertise in embedded systems and holistic robotic system design.

Currently, my graduate research focuses on learning-based control strategies for legged robots. Utilizing Reinforcement Learning (RL), I successfully implemented bipedal and quadrupedal locomotion modes—and their dynamic transitions—on a Unitree Go2 platform. This integration of different locomotion modes can bring legged robots excellent versatility.

Looking ahead, I aim to explore advancements in loco-manipulation for legged robots, bridging the gap between laboratory tests and real-world applications in logistics, disaster response, and industrial automation. ETH Zurich's pioneering work in legged robots and dynamic control aligns perfectly with my aspirations. By participating in this summer school, I seek to deepen my understanding of human-robot interaction and intelligent control of mobile robots—knowledge critical to realizing my vision of socially impactful robotics.

I am confident that the interdisciplinary environment and rigorous academic framework of the ETH Robotics Summer School will propel my technical and intellectual growth. Thank you for considering my application. I would be honored to contribute to and learn from this esteemed program.

Yours sincerely Yasen Jia