My name is Yang (Gilbert) Ye. I am a dedicated Ph.D. candidate expecting to graduate in May 2024 from the University of Florida. My Ph.D. study is supervised by Dr. Eric Jing Du in the Department of Civil Engineering with a focus on human-robot interaction technologies, problems, and assessments in the construction domain. My research interests span the interdisciplinary fields of construction automation, robotics, human factors, and artificial intelligence. I am deeply committed to promoting the seamless integration of robots and advanced algorithms in construction to enhance operational efficiency and improve construction workers’ safety and capability.

My journey began with a BSc degree in Building Engineering and Management at the Hong Kong Polytechnic University, during which I learned engineering practices and became aware of the labor-intensive, complex, and dynamic nature of construction. Inspired by the practical problems that I was facing during my internships in Singapore and Beijing, I started self-learning in programming and computing technologies. My experiences coordinating various construction projects in a Hong Kong building consultation firm led me to realize the need for profound and systematic changes through the adoption of advanced technologies and automation. To expand my knowledge, I pursued an MSc degree in Applied Computational Science and Engineering at Imperial College London. This enriched my expertise in programming, high-performance computing, simulation, and machine learning. Building upon this foundation, I embarked on my Ph.D. journey at the University of Florida, joining the Informatics, Cobots, and Intelligent Construction Lab.

My Ph.D. research centers around creating accessible and inclusive workforce training using Mixed Reality, haptic feedback, robotics, and human-augmentation devices like exoskeletons. By designing innovative algorithms and hardware systems, my aim is to enable novice trainees to acquire essential motor skills without being confined to specific training sites, trainers, or equipment. This approach democratizes workforce training, providing equal opportunities for aspiring workers and fostering inclusivity.

In addition to my primary research, I am actively engaged in other projects, including reinforcement learning for last-mile drone delivery, imitation learning for robot arm kinesthetic experience learning, and applied Large Language Models.

Despite my enthusiasm for technological advancements, I firmly believe in keeping humans at the center of any technological revolution. Alongside my work on algorithms and hardware, I am deeply interested in understanding the human aspects and physiological impacts of technology adoption, such as cognition, trust, pupillary responses, functional near-infrared spectroscopy, and electromyogram. By conducting thorough research in these areas, I aim to establish a balanced human-technology relationship, where innovation serves humanity's best interests.

Ultimately, my research endeavors to promote automation and workforce-augmentation in and beyond the civil engineering area. I am driven to contribute to a future that embraces progress while valuing and nurturing the distinct value and potential of every individual.