

CONTACT INFORMATION	St. Louis, MO, USA LinkedIn , GitHub , My Profile	Tel: (+1)7814989879 guangping.liu@slu.edu
EDUCATION	Saint Louis University , St. Louis, MO, USA PHD in Aerospace and Mechanical Engineering GPA:3.77/4.0 Northeastern University , Boston, MA, USA Master of Science in Mechanical Engineering GPA:3.76/4.0 Nanchang Institute of Technology , Jiangxi, China Bachelor of Engineering in Mechanical Design, Manufacture and Automation GPA: 3.17/4.0 (top 15%)	07/2024 – Current 09/2021 – 04/2023 09/2017 – 06/2021
HONORS AND REWARDS	<ul style="list-style-type: none"> • Travel Grant from Kanako Miura Award to Attend The 2024 IEEE-RAS International Conference on Humanoid Robots took place in Nancy, France, on November 22-24. • Published a utility model patent named A Parallelogram Rotating Lifting Mechanism with A Crank Slider and A Triangular Upright Post. 	
RESEARCH EXPERIENCE	WheelArm-Sim: A multimodel synthetic data simulator for unified control in assistive robotics Saint Louis University, St. Louis, MO 10/2024 – 3/2025 <ul style="list-style-type: none"> • Developed WheelArm-Sim, a simulation framework in Isaac Sim, incorporating the Kinova Gen3 Robot Arm, Whill Model C2, and an indoor environment for Activities of Daily Living (ADLs). • Designed a ROS2-based data collection workflow with a Graphical User Interface (GUI) and a keyboard interface for robot teleoperation. • Collected a three-modality dataset, including natural language instructions, RGB and depth images, and robot action data, covering 2 activities, 13 tasks, and 232 trajectories. • Conducted an analysis of a baseline model that uses time-ordered past data to predict the robot's next actions. MATLAB App for treadmills: COM tracking and self-pacing control Northeastern University, Boston, MA 05/2022 – 05/2023 <ul style="list-style-type: none"> • Developed a MATLAB-based Graphical User Interface (GUI) to dynamically match treadmill speeds with subjects' walking paces by tracking Center of Mass (COM) movement. • Established communication between Bertec instrumented treadmill sensors and MATLAB using a C++-based Software Development Kit (SDK) to access force-plate data in real time. • Implemented a self-pacing algorithm using a Sliding Window Kalman Filter and a feedback controller to estimate subjects' forward COM positions and velocities, adaptively adjusting treadmill speeds. • Created a Kinetic model to estimate lateral COM movement during steady walking, validating model precision against Qualisys Motion Capture System. 	