Brandon Wang

859-410-3361 | brandon.wang649@duke.edu | linkedin.com/in/brandonwang8

Education

Duke University — Durham, NC
Bachelor of Engineering in Mechanical Engineering — *Aug. 2021 – May 2025*
GPA: 3.658

Duke University — Durham, NC
Master of Science in Mechanical Engineering — *Aug. 2025 – May 2026*
Certificate in Robotics & Automation

Experience

Undergraduate Research Assistant — Aug. 2024 – Present
Duke University - General Robotics Lab — *Durham, NC*
- Designed and prototyped robust mechanical platform for heterogeneous modular robots using Fusion 360
- Utilized Docker containers to ensure consistent and portable ROS2 environments, implementing path tracking algorithms using Vicon data
- Created comprehensive open source documentation using MkDocs Material, detailing system architecture, setup procedures, and troubleshooting guides for future researchers

Undergraduate Research Assistant — Sep. 2023 – Dec. 2023
Duke University - Brinson Group — *Durham, NC*
- Researched dielectric response of polymer nanocomposite systems as a function of dispersion
- Implemented physics-based computational models in COMSOL and data science methods to generate data sets for machine learning methods
- Optimized existing MATLAB machine learning scripts for 2D application

Mechanical Engineering Intern — Jun. 2023 – Aug. 2023
Stantec — *Lexington, KY*
- Drafted hydraulic profiles for FGD wastewater treatment plants on Plant 3D
- Annotated piping isometrics by cross-referencing P&IDs on Bluebeam Revu
- Compiled plant equipment lists and data sheets for company-wide use using AutoCAD and Excel

Projects

Mobile Manipulator | *ROS2, Python, Gazebo* — Aug. 2024 – Dec 2024
- Implemented ROS2 navigation stack for autonomous path planning and obstacle avoidance using LIDAR and depth cameras
- Simulated A* Search and manipulation using MiR 250 mobile base and UR5e robotic arm
- Utilized OpenCV for color and object oriented manipulation tasks

Koda Robotic Bear | *Fusion 360, Raspberry Pi, Python* — Jan. 2024 – May 2024
- Independently designed an organic-looking robotic quadruped driven by Jansen linkages
- Wrote Python script to execute walking and dancing locomotion
- Animated linkage joint movement and context renderings of robot through native Fusion 360 software

Technical Skills

Modeling: AutoCAD, Plant 3D, SolidWorks, Fusion 360, Revit, BIM 360
Electronics: Raspeberry Pi, Arduino, Soldering, Microcontrollers
Fabrication: Power Equipment, Machining, Woodworking, MIG/TIG Welding
Languages: Python, Java, C++

Activities

This Engineering Life Podcast | *Junior Sound Engineer* — Aug. 2024 – Present
Brownstone | *President* — Jan. 2023 – May 2024
Duke University Theta Tau | *VP Technology* — Jun. 2022 – May 2024
Duke Men's Club Volleyball | *Libero* — Aug. 2021 – Present
Lakewood Elementary School Tutor — Sep. 2023 – Dec. 2023