

WILLIAM CONNOR TRAUTWEIN

wctrautwein@gmail.com | 954-552-9980 | webpages.charlotte.edu/wtrautwe

EDUCATION

University of North Carolina at Charlotte

Graduation Date: December 2022

BS Mechanical Engineering

GPA: 3.79/4.0

PROJECTS

Vehicle Aerodynamics Course

January 2022 – May 2022

- Utilized Star-CCM+ to perform CFD analysis on a standard pickup truck and a minimal-spec series racecar that were modeled in SolidWorks
- Identified meshing insufficiencies and calculated refined prism layer parameters such as wall Y^+ values and boundary layer thickness to capture more accurate flow characteristics
- Analyzed flow visualizations and drag/lift force monitors to determine the most efficient vehicle configuration for each model

Mobile Crane

August 2021 – December 2021

- Collaborated with a team to design and build a remote-controlled robotic crane; won best overall robot and placed first in competition against five other design teams
- Led the electronics/controls subsystem team and conducted circuit and battery performance analysis
- Developed code in Arduino IDE to operate the robot's drivetrain, gripper, and lifting subsystems

IoT Smart Water Faucet

January 2021 – April 2021

- Designed and prototyped a touchless smart faucet sensing system consisting of ultrasonic, thermistor, and flow rate sensors
- Programmed Particle Argon microcontrollers to communicate sensor data via Wi-Fi and display real time data through an online application
- Designed and 3D printed sensor enclosures using Creo Parametric

WORK EXPERIENCE

UNC Charlotte: Undergraduate Research Assistant

May 2022 – Present

- Applying machine learning to identify efficient swimming gaits for a simple aquatic fishlike robot
- Designing, building, and deploying a solar-powered swimming robot to autonomously develop a repertoire of swimming gaits in an outdoor body of water
- Programming the robot using Arduino and Raspberry Pi platforms with C++ and Python

DCS Inc., Fort Mill, SC: Independent Contractor

August 2020 – Present

- Remodel properties in need of major renovations by performing a broad range of construction services
- Study blueprint specifications and sketches to determine dimensions, project layout, and materials required
- Assemble, install, and test basic electrical wiring, appliances, or fixtures using hand and power tools

SKILLS & TECHNICAL ELECTIVES

Software: Creo Parametric, SolidWorks, MathCAD, Matlab, C++, Star-CCM+, Microsoft Office Suite

Technical Electives: Applied Vehicle Aerodynamics, Advanced Fluid Mechanics, Advanced CAD/CAM, Sustainable Energy, Thermal/Fluid Design