

Duwindu Ranasinghe

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Education

University of Central Florida

Bachelor of Science in Mechanical Engineering

Minor in Computer Science

Orlando, FL | Aug 2022 – May 2027

Current Semester GPA: 3.750

Cumulative GPA: 3.017

Coursework: Thermodynamics, Computer Science 1 & 2, Fluid Mechanics, Modeling Methods, Differential Equations

Skills

Soft Skills: Leadership, Teamwork, Conflict Resolution, Communication, Networking, Adaptability

Hard Skills: Prototyping, Fabrication, Soldering, AutoCAD, Embedded Systems (microcontrollers, sensors)

Languages: C/C++, Python, HTML/CSS, MATLAB

Tools: SolidWorks, MS Office, Siemens NX

Experience

Beyond One Tech | *Hardware Design Intern*

Jacksonville, FL | Mar-Aug 2024

- Worked closely with a 3-person team, contributing to enclosure design, CAD modeling, prototyping, and validation testing for embedded systems.
- Gained end-to-end product experience by supporting a project that progressed through concept, testing, and commercial release.
- Assisted in refining enclosure layouts to ensure usability and manufacturability while adapting to evolving design needs.

Whiting-Turner Contracting Company | *KnightShadow Program Participant*

Orlando, FL | Dec 2024

- Shadowed construction engineers and project managers during office presentations and an active jobsite tour.
- Gained exposure to construction operations, safety procedures, and coordination between engineering and field teams.

Food Service and Customer Operations Associate

Orlando, FL | Jacksonville, FL | Feb 2022-Present

- Delivered strong customer service in fast-paced food service environments through cashiering, order accuracy, food preparation support, delivery operations, restocking, and maintaining clean and efficient work areas
- Handled high-volume transactions and customer interactions while supporting team operations during busy periods across multiple roles at Panera Bread, Domino's, and Shah's Halal Food as a team member

Projects

Microcontroller Housing Design | *Beyond One Tech*

Jacksonville, FL | Aug 2024

- Designed and developed a custom housing for a microcontroller that collected input from a meter and transmitted data to a mobile application, enabling 100% reliable data flow during testing.
- Collaborated with the software team through multiple prototype iterations and validation testing to deliver a market-ready enclosure with proper I/O integration and environmental durability.

Knights Experimental Rocketry (KXR) | *Aerostructures Sub System Member*

Orlando, FL | 2024 - Present

- Contributed to the fabrication of composite rocket bodies for IREC competition rockets by translating team designs into physical structures through carbon fiber layup and epoxy curing.
- Contributed to drafting Manufacturing Process Specifications (MPS) to document fabrication procedures and ensure repeatability and quality control.

Baja SAE | *Ergonomics & Chassis Sub System Member*

Orlando, FL | Jan - May 2023

- Designed and fabricated driver seats, reducing seat size by 35% to meet SAE safety certification standards, ensuring compliance with competition requirements.
- Fabricated the tube chassis by translating CAD models into precise physical structures through cutting and assembly.
- Worked closely with the Ergonomics and Chassis sub system to integrate safety, comfort, and structural integrity into the final vehicle design.

Great Navel Orange Race | *Autonomous Boat Design Competition*

Orlando, FL | Jan - May 2023

- Designed and implemented a microcontroller-based navigation system with ultrasonic sensors for real-time obstacle detection.
- Collaborated on the boat design to deliver reliable autonomous performance within budget constraints.

Extracurriculars

First Tech Challenge Robotics | *President*

Jacksonville, FL | 2021- 2023

- Started and managed first robotics club in high school.
- Participated in competitions at a state level.
- Continued role as assistant coach after graduation.

Eagle Scout | *BSA Troop 276*

Jacksonville, FL | 2018 - 2022

- Directed a 3-month service initiative with 10+ volunteers to construct new animal display perches for the Jacksonville Zoo.
- Developed leadership, project management, and communication skills.

Vintage Car Restoration | *Independent Project*

Jacksonville, FL | 2021 - Present

- Restored classic cars through engine tuning, structural repair, and refinishing.
- Built expertise in mechanical systems, materials, and hands-on problem-solving.