Surafel Anshebo

Blacksburg, VA | 540-558-3768 | Surafeltesfaye.github.io | Surafela@vt.edu

Education

Virginia Polytechnic Institute and State University, USA   **May 2025**
    Master of Science in Mechanical Engineering

Addis Ababa Science and Technology University, Ethiopia   **May 2018**
    Bachelor of Science in Mechanical Engineering

Professional Experience

Virginia Tech | Graduate Research Assistant   **May 2023-Present**
- Facilitate guidance to students through virtual office hours for coursework, assignments, and projects at the African drone and Data Academy, overseeing up to 50 students.
- Manage and maintain students records with Association for Uncrewed Vehicle Systems International (AUVSI) Trusted Operator Program.
- Manage logistics for African Drone and Data Academy from the USA, overseeing operations and coordination for international shipment and supplies with a budget of $100k.
- Develop beyond visual line of sight (BVLOS) flight simulator. The flight simulator involves mission planning, understanding different risk scenarios and assessing flight risk.

Virginia Tech | Graduate Teaching Assistant   **Dec 2023-May 2024**
- Facilitated discussions and provided guidance for Drone Technology and Flight Operations class offering support on coursework, assignments, and projects during office hours.

Coca Cola Beverages Africa Ethiopia | Line Process Engineer   **Dec 2018-Dec 2022**
- Ensured Safety, Health, Environment, and Quality (SHEQ) standards were maintained.
- Optimized overall Equipment Efficiency (OEE) by understanding the structure and functions of all machines to detect abnormalities, conduct Root Cause Analysis (RCA) on different breakdowns.
- Diagnosed equipment issues and met planned production target.
- Achieved and maintained 90% Machine Efficiency (ME) and 85% Unconstrained System Line Efficiency (USLE).

Skills

- Languages: Python, Matlab, C++
- Framework: ROS/ROS2, Gazebo, Rviz, Flask
- Library: OpenCV, Numpy, Dronekit-Python, MAVProxy, Leaflet
- Modeling/Software: Solidworks, AutoCAD, QGIS, SAP
- Hardware: Raspberry pi, Arduino, Pixhawk, Vicon MOCAP
- Certification and Training: Part107 remote pilot, Trusted operator program (Level 1 and 2)

Projects

Computer vision project, Virginia Tech   **May 2024**
- A comparative study of vehicle detection and tracking: Deep learning Vs Traditional methods – paper presented at Xponential conference in San Diego, California.

African Drone and Data Academy, Malawi   **Nov 2022**
- Mapped areas in Malawi that are prone to flood hazard using aerial image using QGIS.
- Designed a gripper in SolidWorks to be mounted on S500 drone that was used for delivering life saving vest.

Coca-Cola Beverages Africa, Ethiopia   **Dec 2019**
- Modified 8 ton boiler fuel tank and condensed water tank level control to improve efficiency of boiler to reduce fuel cost annually by 1,200,000ETB.

Leadership

National Society of Black Engineers Aerospace SIG | Aircraft systems integration challenge lead
- Lead a group to explore challenges to advance aircraft from an integration standpoint with a goal to deliver a research paper at the end of the year.

American Society of Mechanical Engineers Virginia Tech Chapter | Treasurer
- Maintain financial records and ensure that all accounts and records are maintained in accordance with school and ASME policies.