

DAVID NORONHA

Computer Science Student & Robotics Enthusiast

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EDUCATION

- **Vellore Institute of Technology** Chennai Campus
B.Tech Electronics & Computer Engineering, CGPA: 8.49/10 Aug 2023 – Present
 - Coursework: Linear Algebra, Embedded Systems, Signals & Systems, VLSI Design
 - Clubs: Google Developer Group, IEEE Robotics & Automation

EXPERIENCE

- **Robotics Software Intern** Remote
Coratia Technologies May 2025 – Aug 2025
 - Built a **Godot-based** vehicle URDF & simulation editor, integrated with Stonefish, ROS, and Ardupilot SITL.
 - Enabled rapid reconfiguration of thrusters & sensors, improving test coverage by **30%** and reducing simulation setup time by **40%**.
- **Programming and Analysis Head** VIT Chennai
Dreadnought Robotics Apr 2025 – Present
 - Led development of **planning & control** subsystems; achieved **2nd place at TAC Challenge Norway 2024** among 25 international university teams.
 - Optimized performance for **national & international** competitions; secured consecutive **SAUVC qualifications** (2025, 2026) and won **Innovation Award at SAUVC 2026**.

PROJECTS

- **Project Mira (AUV - TRL5) — Dreadnought Robotics** Oct 2024 – Present
 - Designed a **6-DOF thruster controller** with cascaded PID & **Kalman Filter** sensor fusion for Level 3 autonomy.
 - Built vision autonomy stack using **YOLO11n + TensorRT** for object detection, segmentation, and pose-based path traversal.
 - Integrated **MAVLink** control node in ROS2 with **Pixhawk + ArduSub**; deployed distributed onboard compute across **Raspberry Pi, Jetson Xavier & Intel NUC**.
- **Mira Simulator — Dreadnought Robotics** Jan 2025 – Present
 - Built **ROS2 + Stonefish** simulation environment with **Ardupilot SITL**; Dockerized stack cut environment setup time by **>80%**.
 - Validated planning & control algorithms pre-pool trials, reducing physical calibration iterations by **~80%**.
- **Androidino: Embedded Workloads on Android Devices** Aug 2024 – Sep 2024
 - Published as a **research paper** demonstrating Arduino code execution on Android as a low-cost, sustainable IoT alternative.
 - Achieved **3× faster execution** of embedded workloads using repurposed smartphone CPUs via the Linux-based Android kernel.

SKILLS

- **Programming Languages:** Python, C/C++, Embedded C, Java, MATLAB
- **Robotics & Frameworks:** ROS, ROS2, MAVLink, ArduSub, Nav2, QGroundControl
- **Vision & ML:** YOLO, TensorRT, OpenCV, PyTorch
- **Simulation & Tools:** Gazebo, Stonefish, RViz, URDF/SDF Modelling, Git, Docker
- **Embedded Platforms:** Jetson Xavier, Jetson Orin Nano, Raspberry Pi, STM32, BeagleBone