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%**.
    - Reduced simulation setup and validation time by **40%**, accelerating development cycles.

- **Programming and Analysis Lead** — VIT Chennai
  Dreadnought Robotics — *Apr 2025 – Present*
    - Led development of **planning** & **control** subsystems for autonomous robots.
    - Optimized performance for **national** & **international robotics competitions**.
    - Enhanced efficiency via improved communication among peers.

PROJECTS

- **Project Mira (AUV) — Dreadnought Robotics** — *Oct 2024 – Present*
    - Designed a **6-DOF thruster controller**, achieving Level 3 autonomy.
    - Integrated Pixhawk + ArduSub with **MavLink** for reliable ROV mode.
    - Deployed Raspberry Pi, Jetson Xavier & Intel NUC for **distributed onboard computing**.

- **Androidino: Embedded Workloads on Android Devices** — *Aug 2024 – Sep 2024*
    - Published as a **research paper**, demonstrating Arduino code execution on Android for sustainable hardware reuse.
    - Achieved $3\times$ **faster execution** of embedded workloads using repurposed smartphone CPUs.
    - Proposed a low-cost IoT alternative using the linux based Android kernel

- **Autonomous Maze Solving Robot — Dreadnought Robotics** — *Sep 2024 – Oct 2024*
    - Tuned PD controller for precise line tracking (<2.5cm deviation).
    - Integrated Bluetooth module for wireless tuning (cut calibration time by 80%).
    - Implemented search algorithms: A* and Left-Turn First Rule.
    - Used Arduino Uno, Mega, ESP32 with Polulu 16RC sensor array and N20 motors.

SKILLS

- **Programming Languages:** Python, C/C++, Embedded C, Java, MATLAB

- **Tools & Technologies:** ROS, Gazebo, RViz, Git, ArduSub, URDF/SDF Modelling