

Jethro B. Sante

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EDUCATION

Ateneo de Davao University

BS in Robotics Engineering

Davao City, Philippines

June 2026

EXPERIENCE

3D Printing & Prototyping Intern

June 2024 – July 2024

Davao Medical School Foundation Inc. (DMSF)

- Designed and 3D printed **functional medical tools**, including forceps, using **Print-In-Place and FDM technology**, providing medical students with hands-on educational models.
- Scanned, modeled, and 3D printed a human arm using **3D scanning technology and Blender**, producing a **detailed anatomical reference** for students.
- 3D printed a scaled human brain model using **SLA technology**, delivering a clear visual aid for classroom demonstrations.

Agricultural Drone Technician Intern

June 2024

AgriDOM Solutions Corporation

- Encoded **aerial drone spray reports** into the company's online system, **maintaining data logs** for field teams.
- Repaired, calibrated, and maintained** agricultural drones and gasoline generators for field operations.
- Conducted **flight testing and activation** of new and repaired drones (**DJI T30, DJI T40, XAG P100**) for operational readiness before deployment.

PROJECTS

Drone-Based Bird Deterrence System | (Undergraduate Thesis)

ArduPilot, ROS 2, MAVLink, Computer Vision, AprilTag

- Ground camera detects incoming bird flocks, **computes flock centroid location**, and **dispatches a drone via MAVLink** to scatter them.
- Engineered a **6-marker AprilTag precision landing pad**, achieving **11 cm landing accuracy**.
- Achieved a **94% reduction** in average flock duration and a **75% drop** in median bird count.

Blood Pressure Apparatus Trainer

3D Printing, SolidWorks, Blender, IoT

- Built a training device that reproduces **real Korotkoff sounds** through a stethoscope on a **3D-scanned, anatomically accurate arm model**.
- Instructor sets target blood pressure values wirelessly via a **locally hosted web interface, no internet required**.
- 1st Place, Industrial/Functional Category**, Winnovation TechFest (Asian Conference on Advanced Manufacturing), Oct 2025.

Collaborative Multi-Robot Navigation System

SolidWorks, Control Systems, BLE

- Developed a pair of autonomous robots where one robot **explores an obstacle-filled environment**, records its **route**, and **communicates the path to a second robot**.
- Designed and 3D printed both robot chassis in **PETG** and implemented **obstacle detection and route recording** using **Arduino Uno, ToF/sonar sensing, and Bluetooth communication**.

BLDC Motor Thrust Testing Stand

3D Printing, Blender, SolidWorks, Mechanical Design

- Apparatus measuring **real-time thrust, power consumption, and mechanical efficiency** of BLDC motor/propeller configurations.
- Modeled every component in CAD** and **hand-assembled the complete system**.

CERTIFICATIONS

TESDA NCII – Electrical Installation and Maintenance

BOSH Safety Officer II

TECHNICAL SKILLS

Robotics & Simulation: ROS 2, ArduPilot, ArduPilot SITL, MAVLink, Gazebo

Programming: Python, C/C++

Computer Vision: OpenCV, YOLO

CAD & Design: SolidWorks, Blender