

# Diego Oliver

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## EDUCATION

**Vanderbilt University**, Nashville, TN

May 2026

*Bachelor of Engineering | Major: Electrical and Computer Engineering | Minor: Computer Science*

**Engineering GPA:** 3.40/4.00

**Awards:** *Dean's List, James E Dillard Jr Scholarship*

**Coursework:** Microelectronics | Microcontrollers | Embedded Systems | Intermediate Software Design | Analog Electronics 2

## PROFESSIONAL EXPERIENCE

**Wond'ry Makertech**, Nashville, TN

February 2025 – Present

*Undergraduate hire and Summer Intern*

- Overlooked the Electrical/Mechanical makerspace's laser cutter, silicone molding, 3D printers, power tools, soldering stations
- Assisted over 100 Vanderbilt affiliates (under/postgrads, professors, hospital technicians) in prototyping their projects

**Cinema and Media Arts Research**, Nashville, TN

June 2025 – Present

*Undergraduate Research Assistant*

- Preparing an art exhibition centered around the intersection of engineering and art as we enable a plant to "draw us a picture"
- Building a 3-Axis drawing machine using a GRBL-based Blackbox controller and RPi5 to read electrical nodes within the plant

**Vanderbilt Institute for Surgery and Eng. (VISE)**, Nashville, TN

June – August 2024

*Summer Research Fellow*

- Fabricated various stiffness-switching hydraulic grippers with embedded low melting point alloys for surgical applications
- Designed a temperature-controlled hydraulic system to drive the gripper as well as a personalized GUI for operational control

## PROJECTS

**Formula SAE: Motorsports Electrical Team**

Aug 2025 – Present

- Created a scalable "nervous system" for the car, enabling reliable real-time telemetry, diagnostics, and subsystem coordination
- Implemented gateway nodes to aggregate peripheral sensor data and transmit it over CAN to central vehicle controllers

**DIY Semi-Analog, Modular Synthesizer**

January – October 2025

- Developed a 3-part PCB synth consisting of a Midi-to-CV converter, 3-channel Active Mixer, and Volt. Controlled Oscillator
- Engineered the oscillator to be fully analog with 4 selectable waveshapes, sustaining a volt-per-octave standard up to 2kHz

**NASA Lunar Robot National Competition**

August 2023 - May 2024

- Revamped our robot's localization system by using a modified UWB ESP32 for time-of-flight estimation of RF signals
- Placed in the final top 10 nationwide and received \$1250 for ending 2<sup>nd</sup> in the autonomous navigation category

**Vanderbilt Hackathon: A-Eyes App**

October 28, 2023

- Programmed an image recognition, cross-platform, mobility app called "A-Eyes" for the visually impaired using google flutter
- Attained 3<sup>rd</sup> place out of the 140 participants competing in the 24-hour challenge as well as various sponsor specific prizes

## LEADERSHIP

**VU Amateur Radio Club**, Nashville, TN

May 2024 – December 2025

*President, Call Sign: KQ4NIL*

- Launched a solar, ultra-low powered Pico balloon broadcasting our club's call sign (AA4VU) as it traveled across the Atlantic
- Hosted events aimed at licensing preparation as well as spreading general interest in RF engineering and wireless networking

**Undergraduate Residential Advisor (RA)**, Nashville, TN

August 2023 – May 2025

*Vanderbilt Campus Res-Ed*

- Headed two different undergraduate residential communities planning events and being responsible for a total of ~500 students
- Trained and enacted crisis management roles regarding mental health, interpersonal relationships, and medical concerns

## SKILLS

**Programming:** C/C++, Java, Python, MATLAB, AVR Assembly, ROS Foxy, HTML + CSS

**Tools & Software:** Fusion 360, SolidWorks, LTSpice, KiCad, OpenCV, Tensor, Flutter, Linux (Ubuntu)

**Technical:** Electronics (Soldering, PCB design, Oscilloscope), 3D Printing, laser cutting, wood working

**Interests & Other:** Filmmaking, Modular Synths, Spanish (native), Portugues (beginner), Spanish Citizenship