Ryan Taylor

Cedar Hill, Texas | (469)-305-9014 | ryan.c.taylor@vanderbilt.edu | www.linkedin.com/in/ryan-c-taylor37

EDUCATION

Vanderbilt University, Bachelor of Engineering, Electrical and Computer Engineering, Computer Science   Nashville, TN
GPA: 3.44/4.00   May 2024
Technical Languages: Java, Python, C++, C, Autodesk Inventor, LTSpice, Assembly, Quartus, Radio Technician License
Relevant Coursework: Embedded Systems (C), Microcontrollers (C, Assembly), Electronics, Autonomous Vehicles (Julia), Intermediate Software Design (C++), Digital Signals Processing, Program and Problem Solving (Python), Circuits, Digital Systems
Awards: Dean's List, Cornelius Vanderbilt Scholar, Ron Brown Captain

INTERNSHIPS

Rolls-Royce Electronics Development Intern   Indianapolis, Indiana May-August 2022

- Administrated driver integration of an AVL dynamometer into the test stand control system in the Electric Power Lab to streamline testing operations and data acquisition.
- Modernized data aggregation systems by installing a private git server and establishing an autonomous routine to log changes in configuration files for test stands for auditing requisitions.
- Characterized electronic equipment to verify that they operated within specified threshold values and performed diagnostic testing to identify flaws in the structural design of devices in the event of failure.

LEADERSHIP AND ACTIVITIES

Vanderbilt Robotics Club: *Drive Control Co-Lead and Electrical Team Member*   Nashville, TN Jan 2021 – Present

- Designing an autonomous drive control system to optimally traverse and navigate a track while avoiding obstacles.
- Developed navigational algorithm by constructing local and global mapping using an Intel RealSense camera and ROS2 architecture.

Vanderbilt Satellite Club: *Communications and Programming Sub-Team Member*   Nashville, TN   July 2021 – Present

- Launched weather balloon to test preliminary designs and operating conditions for the PCB circuit, sensory devices, and communication systems.
- Designed communications interface to connect weather balloon with ground operations and implementing relevant software on Raspberry Pi to successfully broadcast sensory data with radio frequencies to ground with APRS.

PERSONAL PROJECTS

Electric Longboard   June 2021 - Present

- Designed and built a Dual-Motor Hub Electric Longboard.
- Built schematic designs and assembled the longboard from constituent components to successfully operate and drive from a bluetooth controller.
- Continue to revise structural components to optimize battery life and motor performance.

Laser Tracking Robot   August 2022 – December 2022

- Programmed a FreeNove robot to autonomously follow a laser and record its trajectory and retraverse the path it travels from its starting position
- Designed software architecture using threads, task synchronization and communication, and motor control functions

Maze Solving Robot   January 2021 - May 2022

- Encoded a Pololu 3Pi Robot to navigate and traverse a maze autonomously. Then calculate the optimal path and traverse the maze a second time without making any redundant traversals.
- Designed a control loop that allows the robot to follow a black line using infrared sensors and course correct itself if it veers off the path and records its position as it traverses the maze.