

Colin Strout

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EDUCATION

Vanderbilt University

Nashville, TN

Bachelor of Engineering in Electrical and Computer Engineering and Mathematics, Minor in Computer Science

May 2027

- **Relevant Coursework:** Data Structures, Algorithms, Intermediate Software Design
- **GPA:** 3.97, Dean's List (all semesters)

EXPERIENCE

Oracle

Naples, FL

Software Engineer Intern

May 2025 – Aug 2025

- Designed and implemented a context retrieval web service leveraging Oracle 23ai Vector Database, improving LLM-generated text relevance to user domains and reducing memory consumption by 20%
- Developed and managed an internal AI ideation platform built on Oracle Cloud Infrastructure with JavaScript, enabling cross-business unit collaboration and rapid prototyping through RAG-based chatbot assistants and similarity search with 95% accuracy
- Migrated a web service's local database testing rig to a newer version and automated build scripts, increasing local testing efficiency by 40%

Vanderbilt University

Nashville, TN

Undergraduate Research Assistant

Jan 2025 – Present

- Developed a driver for the Bioimpedance channel of MAX3001 peripheral and integrated the driver with the peripheral's ECG channel to allow for simultaneous Electrocardiogram and Respiratory reading functionality within a wearable sensor using Rust
- Developed activation and identification features of an iOS application that enables a sensor to read and process data and convert it to an analog output within the application using Swift

PROJECTS

Autonomous Lunar Robot | C, C++, OpenCV, ROS 2

Aug 2024 – Present

- Developed SLAM algorithms to optimize image processing using an Intel RealSense peripheral, including distance calculation and object detection using C++
- Calibrated and implemented a microcontroller in C to control the wheels of the robot and optimize its movement
- Leveraged ROS 2 to assist in the design of a Publisher-Subscriber communication protocol to ensure consistency in the robot's actions, both in autonomous and manual settings

NASA SUITS Challenge | C#, JavaScript, Docker

Oct 2023 – May 2024

- Developed a non-intrusive Augmented Reality User Interface that assists and enhances a user's experience when completing a simulated EVA mission on Mars using C# and .NET through Unity
- Created a custom REST API between a local mission control center and Microsoft HoloLens 2 to increase data streamlining efficiency of JSON data by 20% using JavaScript
- Spearheaded front-end development of a particular feature within the local mission control center using Agile methodologies and communicative strategies with partner university

Coderace.io – VandyHacks XI | TypeScript, Next.js, React.js, Node.js, GraphQL

Sept 2024

- Developed a user interface and experience that allows users to practice Data Structures and Algorithms related coding questions using Next.js on top of a React.js and TypeScript application
- Contributed to the development and efficiency of web-sockets to enable real-time multiplayer engagement in Node.js
- Integrated a reference to the OpenAI GPT-3.5 turbo API to evaluate a user's response to a prompt and verify the validity of their solution, giving feedback if the solution was not valid

SKILLS

Programming Languages: C/C++, C#, Python, Java, HTML/CSS, TypeScript/Javascript, SQL, Bash, Rust

Frameworks/Databases: PyTorch, TensorFlow, .NET, Next.js, React.js, Node.js, Spring Boot, MongoDB

Technologies: Git, GitHub, Docker, OpenCV, Linux, ROS 2, Visual Studio, IntelliJ, I2C, UART, SPI, TCP, UDP