

JACOB MARTINAGE

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EDUCATION

Virginia Tech, Computer Science B.S

2023 — 2027

- Current GPA: 3.70
- Clubs: VT Data Structures and Algorithms club, VT AI and ML club

Wheelie Control System Lead Developer | BOLT Team at Virginia Tech September 2023 — Present

Currently leading the development of the Wheelie Control System, ensuring the bike maintains a consistent angle by dynamically adjusting the throttle based on real-time data from an Inertial Measurement Unit(IMU)

- Integrated **IMU data** with an Arduino Mega board, enabling **precise control** and real-time feedback
- Developing a **dynamic control algorithm** that takes the current angle and momentum values to calculate throttle adjustments to keep the bike stabilized at a 40 degree angle

PROJECTS

YTSummarizer

<https://github.com/JacobMartinage/VTHacks11>

-Developed a web app to summarize YouTube videos using YouTube API and **OpenAI's ChatGPT API**

- Extracted video transcript from YouTube using a YouTube API
- Utilized ChatGPT's Davinci 3.0 **generative AI** API to create concise and coherent video summaries
- Improved user experience with a user-friendly web interface and **custom CSS animations**

Technologies: Javascript, Python, HTML, CSS, Davinci 3.0 AI API

Envo, VTHacksX AI Environmental Chatbot

<https://github.com/ramankc6/VTHacks2022>

Created a chatbot connected to a machine learning algorithm that estimated the carbon emissions of current and future car models, earning **3rd place** in the **Environmental ML algorithms** category

- Utilized Twilio to exchange messaging between the user and the AI chatbot
- Trained a machine learning algorithm based on the carbon emissions of thousands of different car models and tested with 500 cars, giving a result of **95% accuracy** with the tested data

Technologies: Python, Javascript, HTML, CSS, IML

War-dle

<https://github.com/JacobMartinage/War-dle>

Built a Wordle based game in **Python** where the user guesses a country based on military and economic statistics

- Utilized the World Bank API for military statistics and organized data in a **hash map**
- Used Google's country latitude and longitude database to determine the direction and distance to the intended country from the most recently guessed country, allowing the user to geolocate the correct country

Technologies: Python, JSON parsing, Mapping API

WORK EXPERIENCE

Python Tutor | Arlington, VA

Jul 2021 — Present

- Tailored one-on-one **Python** lessons to an adult learner through custom lessons, exercises, and projects
- Assisted the student in developing programming **problem solving** skills through **coding challenges**

Supreme Court Cabinetry Internship | United States Supreme Court

Summer 2023

- Learned to use **3d modeling** tools like **Autodesk** and **CabinetVision** to help design desks, credenzas, and cabinets for court justices
- Utilized a **3d scanner** to create 3d models of intricate carved designs and integrated them into designs of large pieces
- Worked with several woodshop tools to create projects and helped prototype a **hydraulic raising lectern**

SKILLS

- Code: Python, Java, Javascript, HTML, CSS, Swift, React,
- Tools: Three.js, Github, Node.js, Svelte

ACHIEVEMENTS

Graduated CodePath's IOS Development 101 class

2023

Hackathon Podium Placement: VTHacksX 3rd Place in Environmental ML algorithms

2022