

JACOB MARTINAGE

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EDUCATION

Virginia Tech, B.S Computer Science | GPA: 3.7 | Blacksburg, VA

Expected Graduation: May 2026

- Organizations: VTHacks, VT Artificial Intelligence & Machine Learning, and HackViolet
- Relevant Courses: Discrete Math, Problem Solving in CS, Linear Algebra, Computer Organization, Data Structures

SKILLS

- Languages & Frameworks: JavaScript, React, Python, Java, BASH/Linux, TypeScript, HTML, CSS, C, C++, React-Native, Svelte, SvelteKit, Flutter + Dart, Node.js, C#
- Tools: Docker, Kubernetes, Supabase, Firebase, PostgreSQL, SQL, Next.js, AWS EC2, Tensorflow, TailwindCSS, Expo, NativeWind, Mapbox, Unity, UnityXR, PyTorch, Figma

EXPERIENCE

Backend Software Engineering Intern, General Atomics- CCRi | Charlottesville, VA

May 2024 — Aug 2024

- Developed Bash scripts to automate the tracking of funding sources and manage data rights, **reducing manual processing time by 95%** and improving accuracy across **10+** projects.
- **Optimized Kubernetes deployments** in Minikube, improving overall performance and reliability.
- Enhanced stability of a major Java/Scala stack by addressing memory inefficiencies, optimizing resource utilization, and improving fault tolerance, increasing uptime from **2 hours to over 20 hours**.

Vice-President & Co-Founder, Project Torch | Blacksburg, VA

May 2024 - Present

- Lead a team of **10+ developers** to make free websites and software solutions for local Blacksburg businesses.
- Conduct training sessions to **teach React, node.js, and related libraries** to enhance project outcomes.
- Our sites have seen an aggregate of **over 10,000** unique monthly visitors.

P.R.I.M.E Lab Research Assistant, Virginia Tech | Blacksburg, VA

Jan 2024 - Present

- Built a scalable web app with a task panel, coding interface, and real-time chat using a custom ChatGPT agent, **supporting 100+ concurrent users** with React and Express.
- Designed and implemented a **PostgreSQL database** hosted on AWS, collecting **250GB+** of data on user interactions, leading to enhanced insights and optimized AI functionalities for student usage.

PRIME Lab Home Page: <https://chensivan.github.io/>

PROJECTS

SteerClear | HackViolet 2025 Winner

Feb 2025

- Developed SteerClear, a React Native app that **won Best Startup Hack at Hackviolet 2025**, integrating AI-powered safety reports and custom routing algorithms to prioritize user safety.
- Designed a **custom routing algorithm** that dynamically avoids high-risk areas, improving pedestrian navigation beyond traditional shortest-path methods.
- Implemented a real-time heatmap and crowdsourced safety reporting system using Supabase and a **data-decay model** to maintain accurate, up-to-date threat assessments.

Technologies: React Native, Javascript, Supabase, Nativewind

Ditch | Hoohacks 2024

Mar 2024

- Developed a tool that automated call-based cancelation of subscription services, saving users **500+ hours**.
- Architected a backend using Node.js, Twilio, GPT API, ElevenLabs, Deepgram, and AWS to automate subscription cancellations via **real-time AI-driven phone calls**, removing the need for users to speak to customer service.
- Developed a user-friendly frontend enabling effortless organization and **one-click cancellation of subscriptions**.

Technologies: Javascript, Python, HTML, CSS, Deepgram, ElevenLabs, Twilio, Node.js

Envo | VTHacksX AI Environmental Chatbot

Nov 2022

- Made 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** model based on the carbon emissions of **9000 different cars** and tested on 1000 cars, resulting in **over 95% accuracy** for predictions.

Technologies: Python, Javascript, HTML, CSS, AI/ML