Vraj Shah

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Education

The Ohio State University   *Expected Graduation:* May 2025
Bachelor of Science, Computer Science & Engineering, Columbus, OH

Work Experience

Research Assistant   August 2024 – Present
Machine Analysis of Political Speech Lab, Columbus, OH
- Developed and optimized a scalable data pipeline leveraging Computer Vision and NLP to analyze political speech, with an SQL database cataloging politician profiles, topics, and video segments.
- Automated data extraction using Python, WhisperX, and Meta's Llama-3, reducing debate processing time to 13 minutes, with data visualizations created via matplotlib.

Technical Co-Founder   June 2024 – Present
dustin, Columbus, OH
- Developed "dustin," an AI-driven platform for e-commerce sellers, integrating expense tracking and demand forecasting, securing our first paying customer.
- Implemented key technologies including Plaid API, Next.js, LangChain, and Supabase for seamless financial data management and application scalability.

IT Support Technician   May 2024 – August 2024
Digital Union Classroom Services, Columbus, OH
- Provided comprehensive customer service and technical support in classrooms and Digital Union Studios, assisting with instructional technology, software, and AV systems, while performing daily maintenance and troubleshooting.

Chief Technology Officer   December 2022 – May 2024
Mindful Diagnosis, Columbus, OH
- Developed an implicit bias assessment platform for physicians using NextJS, SQL, Mux, Tailwind, and Prisma, securing $1500 in startup funding from Ohio State University.

Research Assistant   June 2022 – August 2022
Network-Based Computing Lab, Columbus, OH
- Optimized the NOWLAB website with advanced HTML/CSS and GitHub version control, and configured network protocols for lab hardware infrastructure.

Projects and Awards

National Cyber League   October 2018 – Present
- Cybersecurity Capture the Flag (CTF) competition, honing skills in areas such as log analysis, binary exploitation, open-source intelligence, cryptography, and more.
- Demonstrated impressive performance by achieving a commendable placement of 380th out of 5380 individuals from diverse colleges.

Gym Data Tracking App Project   May 2024 - Present
- Developed a real-time gym tracking application for Ohio State University gyms using React Native and Selenium to scrape and display gym and station usage data, and successfully submitted the app to the Apple App Store for accessibility by OSU students and staff.

HackOH/IO Makeathon   March 2024
- Developed an advanced security suite, using machine learning for facial recognition to unlock doors, integrated with Twilio API for alerts on unknown entries, utilized weather API for real-time updates, and implemented an audio level detector for gunshot detection alerts via SMS.
- Secured 2nd place out of 100 competing teams.

HackOH/IO Hackathon   October 2022
- Developed a safety application within a 24-hour timeframe that utilizes Google's API for location tracking to identify and display the nearest emergency blue light from the user's current location.
- Secured 2nd place out of 200 competing teams.

Skills

Languages: English (Native), Gujarati (Native), Hindi (Second)
Programming Languages: Java, C++, C, x86-64 Assembly, Python, TypeScript, React Native, JavaScript (ThreeJS, VueJS, NextJS).
Other: Linux, HTML5, CSS, Git, Microsoft Suite, SQL, Bash, SolidWorks, Visual Studio, Figma, Twilio, WebGL, OpenCV, Tailwind CSS, Mux.