

# Vaibav Subramanian

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## EDUCATION

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Bachelor of Science, Electrical and Computer Engineering at UT Austin

Class of 2028

**Relevant Coursework:** Calculus I-III, Data Science, Data Structures, ECE302 (Intro to Electrical Engineering), ECE306 (Intro to Computing), AWS, Networking

## WORK EXPERIENCE

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### Custom Heliarc — *Software Engineering Intern*

March 2025 – June 2025

- Automated repetitive documentation workflows by building **Python scripting solutions**, increasing efficiency by **100%**
- Created **automation** frameworks to ingest, process, and categorize runtime device logs and system performance metrics, **improving troubleshooting time by 50%**
- Delivered scalable tools for internal teams by integrating Python automation into existing Excel-based workflows

### Clutch — *Web Development Intern*

October 2024 – December 2024

- Implemented responsive UI components with **Next.js & TailwindCSS**, improving design consistency and user engagement
- Implemented automated testing pipelines leveraging **Jest, React Testing Library**, and **CI/CD integration**, systematically identifying regressions and performance bottlenecks that increased overall platform stability
- Developed **React TS** websites for **3 clients**, delivering customized solutions for businesses that contracted our services

### CottonHoldings — *Software Engineering Intern*

June 2024 – August 2024

- Developed scalable internal tools that **processed large volumes of storm data** and **automated** customer weather alerts
- Used **Python** to extract & analyze meteorological datasets, reducing manual intervention and improving alert accuracy
- Engineered a scalable, full-stack data management system using **React, Node.js, and MongoDB**, implementing JWT authentication, **RESTful APIs**, and optimized UI/UX to ensure maximum efficiency for **50+** company employees

### NEAC — *Foreman Intern*

June 2023 – July 2023

- Directed a team of interns in digitizing and archiving **1000+ critical company documents**, reducing physical storage costs
- Designed and implemented a **Python-based file parsing and organization script**, automating large-scale data structuring
- Designed and deployed a **standardized digital document management architecture (naming conventions, directory hierarchy, etc.)** that improved retrieval speed and provided a scalable foundation for future management solutions

## PROJECTS

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### SafeGuard

- Developed a facial recognition bathroom pass platform leveraging **React** to streamline student check-out with biometrics
- Deployed three dashboards (Student, Teacher, Admin) with **RESTful API** integration and real-time data visualizations
- Built a scalable backend with **MongoDB**, integrating JWT authentication & optimized data models to ensure performance

### Web Crawler Search Engine

- Developed a three-component system containing a web page scorer, **recursive crawler**, and search query interface
- Deployed a search engine using **Node.js, Express, Axios, and Cheerio** with ranking algorithms to display relevant results
- Created **automated testing scripts** with JavaScript to generate test cases to validate page ranking accuracy

## ORGANIZATIONS

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### Convergent

- Collaborated with the Health Tech sub team to design a wearable solution promoting healthier digital habits
- Engineered an **IoT-enabled eyeglass attachment** using **Raspberry Pi** and camera module for real-time object detection to track screen exposure and make sure the user maintains a healthy viewing distance from their device
- Developed a React Native App to display centralized screen-time analytics, integrating data from the IoT device

## SKILLS

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- Languages: JavaScript, TypeScript, Python, Java, HTML, C++, C, Assembly, Arduino, Git, Node, MongoDB Backend
- Frameworks: Next.js, React, TailwindCSS, Pandas, NumPy, Flask, React Native, Expo