Abhinav Byreddy

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Education

The Pennsylvania State University B.S. in Computer Science
GPA: 3.80 Expected Graduation: May 2026
Awards: Dean's List for 4 Semesters

Skills

Languages: Java, JavaScript, Python, Bash, HTML/CSS
Frameworks: React, Next.js, Kubernetes, Node.js, OpenAPI/Swagger
Tools: NGINX, Docker, AWS/GCP, Project Management
Certifications: AWS Certified Cloud Practitioner, J.P. Morgan Forage Software Engineering Experience
Relevant Coursework: Systems Design (C), Algorithms, Database Management

Work Experience

CTFGuide State College, PA
Software Engineer Oct 2022 – May 2024

- CTFGuide is a platform that provides web based cloud terminals, hundreds of practice problems, AI grading, and a full LMS system to help professors teach cybersecurity.
- Built and monitors core backend terminal framework architecture to mirror fully functional Linux terminals in browser through HTTPS using Kubernetes, Docker, and NGINX, hosted on Google Cloud Platform.
- Reduced platform cloud costs through extensive optimization of performance and resource utilization.
- Created scripts using Python and Bash for logging terminal commands/UI events and streaming them to an AI microservice in real-time.
- Created web pages using the React and Next.js framework coded in HTML/CSS (Tailwind.css).
- Deployed microservice in the standardized in OpenAPI spec to handle terminal details & CRUD.

Projects

Workbook Oct 2023

- Terminal system built on GCP K8S that gives professors an interactive markdown coding environment

QuickQuiz Nov 2022

- Used Tensorflow to analyze user submitted notes and GPT-3 to make flashcards based off of the summarization model.
- Built backend using Node.js and used Express.js with Firebase to authenticate and deploy frontend.

WebbProcessor Oct 2022

- Program built in Java to automatically process and output raw images taken from the James Webb Space Telescope.

Facial Recognition Door Lock Aug 2020

- Created an electronic industrial door lock unlocked by facial recognition.
- Used a Raspberry Pi to process visual information from a camera through an open-sourced library known as OpenCV.

Activities

- HackPSU 2022-2023
- VEX Robotics 2015-2021