

Aman Sahu

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Professional Summary

Innovative and results-driven Computer Science student with a strong foundation in software development and full-stack engineering. Skilled in leveraging advanced technologies, including Python, Flask, Swift, and AWS, to create solutions in diverse domains. Proven leadership experience managing teams and delivering technical solutions, with a track record of improving system efficiency and developing responsive applications. Recognized for problem-solving expertise and a committed to continuous learning.

Skills

Languages: Python, SQL, C++, Swift, Firebase, Angular

Libraries: flask, transformers, sk-learn, Streamlit, matplotlib, Seaborn, JavaFX

Methodologies: SDLC, Agile, Waterfall

Tools: Git, Docker, Slack, ServiceNow, REST APIs, AWS (SageMaker, EC2, S3), Azure SQL Databases, GSuite, Office365

Education

Pennsylvania State University

Aug 2021 – Expected May 2025

B.S Computer Science

GPA: 3.36

Deans List: *Fall 2021, Spring 2022*

Related Coursework: Data Structures, Formal Languages, Operating Systems, Algorithms and Analysis, Applied Regression Analysis, Artificial Intelligence, Machine Learning

Work Experience

Cofounder & Software Engineer *ADDR LLC*

Dec 2024 - Present

- Drone automation startup developing autonomous solutions with a core team of 4 engineers.
- Architected and developed the company's responsive website using HTML, CSS, and Three.js
- Discuss the concepts and implementations through weekly SCRUM meetings
- Prototyping drone navigation algorithms for efficient, safe operations in challenging settings.
- Researching object detection using the NVIDIA Jetson Nano development environment.

Operations Analyst 1 *Penn State Housing and Food Services*

Aug 2024 - Present

- Migrated backend architecture to **Node.js** and **mySQL** server, improving efficiency by 40%
- Introduced **Git** Version Control System for codebase
- Improved data management in Inventory Management System using **JavaScript**
- Streamlined mass email communication for over 150 employees using **Power Automate**
- Produced detailed technical documentation for backend processes for proper system maintainability.

IT Services Student Team Manager *Penn State IT Services*

June 2022 - Present

- Managed student team of over 10 employees, providing insight into daily team tasks and technical problems
- Effectively maintained university technology infrastructure, ensuring systems are up to date
- Assisted more than 250 students and faculty with technology issues employing intricate solutions
- Managed and created incidents using **ServiceNow** for streamlining communication and upkeep
- Deployed and verified 500+ university computers with custom Penn State OS image

Research Intern, MCREU Program *Penn State College of Engineering* April 2024 - July 2024

- Developed pipeline to deliver accurate conversational translations between doctors and patients
- Integrated Meta's SeamlessM4T-v2 **Natural Language Processing** model into **Swift** iOS application
- Implemented NLP model using Python's **transformers** and containerized environment using **Docker**
- Produced custom API endpoints using **Gunicorn** with **Flask**, enhancing scalability and performance
- Deployed model on **AWS SageMaker** with **S3** storage and **EC2** for deployment
- Initiated early stages of iOS application deployment using **TestFlight** for beta testing and user feedback

Full Stack Developer Intern *Swan Softech Pvt. Ltd.* April 2022 – Sept 2022

- Collaborated and improved file tracking efficiency by 17% using Python and Angular.
- Migrated 5,000+ rows to **SQL** with **PHPmyadmin**, boosting response time by 15%
- Demonstrated fluency in writing production-ready code, implementing **Object-Oriented Programming**
- Introduced proper versioning and modifications to **REST API**, improving API response time by 20%
- Constructed **unit tests** of application, effectively resolving issues ensuring optimal performance

Projects

Rapha.AI Python, tranformers, sk-learn

- Worked on team for improving disease and cancer detection in medical images
- Built fine-tuned *Vision Transformer* and *ResNet* models for binary image classification
- Trained models on datasets such as MNIST and RSNA Pneumonia for accuracy.

SeamlessM4Tv2-API Python, flask, Docker
Source Code

- Developed for iOS application facilitating interlanguage communication between doctors and patients
- Deployable custom API endpoints for generating text-to-speech and speech-to-speech translations

AI-Algorithms Python
Source Code

- Maintaining knowledge repository for showcasing the implementations of fundamental search algorithms
- Implemented Optimization techniques such as the Genetic Algorithm and Search Algorithms.

Desktop Financing App Java, JavaFX, Python, Seaborn
Source Code

- Contributed to a **Java** accounting program as part of final year capstone project
- Showcasing collaborative software development skills and understanding of programming principles.

dsicbot-X Node.js, Javascript
Source Code

- Designing and implementing a versatile Discord bot for enhancing user interaction within Discord servers.
- Built using discord.js library and current integration with Google Programmable Search Engine