

# Aman Sahu

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## Professional Summary

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Innovative and results-driven Computer Science student with a strong foundation in software development and full-stack engineering. Skilled in leveraging multiple languages and tools, including Python, Flask, Swift, and AWS tools. Proven leadership experience managing teams and delivering technical solutions. Recognized for problem-solving expertise and a committed to continuous learning.

## Skills

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

**Libraries:** flask, transformers, PyTorch, 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

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**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

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### Software Engineer

*ADDR LLC, Harrisburg, PA*

Dec 2024 - Present

- Designed and maintained the company website using Three.js and JavaScript in a Linux-based development environment.
- Conceptualization, collaboration, and development of prototype drone navigation algorithm for efficient safe operations in real world scenarios
- Finetuned Yolo11x model for realtime object detection trained on preprocessed datasets

### Operations Analyst

*Penn State Housing and Food Services, Middletown, PA*

Aug 2024 - Present

- Analyzed and maintained location inventory using internal database tools, incorporating Excel for data analysis and reporting
- Introduced **Git** Version Control System for inventory management codebase
- Preprocessed JSON data structure, improving data quality of Inventory Management System
- Streamlined mass email communication for over 150 employees using Power Automate and API
- Produced detailed technical documentation for backend processes for proper system maintainability

### IT Services Student Team Manager

*Penn State IT Services, Middletown, PA*

June 2022 - Present

- Managed university technology infrastructure, ensuring timely updates and high system quality
- Trained and led a student team of more than 10, enhancing communication skills and collaborative problem solving
- Assisted more than 250 students and faculty with technical issues, employing intricate troubleshooting solutions
- Managed and created incidents using **ServiceNow** for streamlining communication and upkeep
- Oversaw deployment and verification of 500+ university computers using a custom Penn State OS image

## Research Intern, MCREU Program

*Penn State College of Engineering, State College, PA*

April 2024 - July 2024

- Developed pipeline to deliver accurate conversational translations between doctors and patients
- Integrated Meta's SeamlessM4T-v2 **NLP** 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, Raipur, India*

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 response time by 20%
- Constructed **unit tests** of application, effectively resolving issues ensuring optimal performance

## Projects

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### Rapha.AI

Python, transformers, sk-learn

- Collaborated and built fine-tuned *Vision Transformer* and *ResNet* models for improving disease and cancer detection in medical images
- 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.

### discbot-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