Jahnavi Panchavati

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Summary

Software Engineer with 2+ years of experience building scalable backend services and intuitive user interfaces. Proficient in enhancing engineering productivity, and contributing to quality product delivery across the full software development lifecycle.

Education

North Carolina State University, Raleigh, NC **Aug 2023 - May 2025**
MS in Computer Science - GPA: 3.9/4.0
Coursework: Design and Analysis of Algorithms, Generative AI for Software Engineering, Cloud Computing Technology
Certifications: Google Associate Cloud Engineer - In progress

PES University, Bengaluru, India **Aug 2017 - May 2021**
Bachelor of Technology in Electronics and Communication Engineering - GPA: 8.7/10.0
Coursework: Data Structures, Database Management Systems, Computer Networks, Neural Networks

Technical Skills

Languages: Python, Golang, JavaScript, C#, Java, SQL
Frameworks & Libraries : React, Angular, Flask, FastAPI, .NET, Node.js
Databases & Tools : MongoDB, MySQL, DynamoDB, Postman, RabbitMQ
Cloud & DevOps : AWS (S3, IAM, Lambda), Git, GitHub, Docker, Kubernetes
Machine Learning & AI: OpenAI, Scikit-Learn, PyTorch, NLP, LLM, Generative AI, Tensorflow, LangChain

Work Experience

Research Assistant, North Carolina State University, USA **Jan 2025 - May 2025**
- Built a **Python**-based backend pipeline to analyze developer screen images, using OpenAI **GPT-4** to detect and classify development tools, demonstrating experience in scalable backend processing and API integration.
- Integrated an object detection model into the Python backend to generate bounding boxes and annotate identified tools.

Software Engineer, Accenture Solutions, India **Jun 2021 - Jul 2023**
- Designed and maintained scalable **RESTful APIs** using **C#** and **.NET** in a fast-paced **Agile** environment, handling **100+** daily requests and contributing to production-grade backend services.
- Contributed to high-quality frontend engineering by optimizing **Angular**-based UIs for responsiveness and accessibility, reducing support tickets by **20%**.
- Developed a message-driven architecture using **RabbitMQ** to support seamless integration of ML APIs, reducing data processing latency by **12%** and improving end-to-end system responsiveness.
- Implemented data-driven **D3.js** dashboards to track project-level KPIs, supporting continuous feedback loops and stakeholder visibility into delivery progress.
- Refactored and optimized **MongoDB** queries for high-load environments, ensuring fault-tolerant data access.

Data Science Intern, Pivotchain Solutions, India **Jan 2021 - Jun 2021**
- Integrated deep learning models for computer vision tasks using **TensorFlow** and **OpenCV**, achieving **90%** precision in color detection by applying **CNN** architectures and transfer learning techniques.
- Automated large-scale dataset collection and preprocessing for **10,000+** images, streamlining data pipelines and boosting model performance by **5%**.

Projects

Intelligent Document Processing System - [GitHub]
- Built a Retrieval-Augmented Generation chatbot system, reducing manual document analysis time through intelligent backend orchestration and **LLM** integration.
- Developed a scalable backend using **FastAPI** and integrating with a **ReactJS** frontend for real-time user interaction.
- Implemented MongoDB vector search to optimize query relevance and retrieval speed, enhancing the backend system's ability to serve context-aware responses efficiently.

Cloud-Based File Storage System
- Implemented monolithic RESTful API using **Node.js**, enabling secure file upload, retrieval, and deletion via **AWS S3**, with robust support for authenticated user actions.
- Designed **JWT**-based user authentication and integrated **DynamoDB** for managing user metadata, enforcing fine-grained access control using **AWS IAM** policies and pre-signed **S3** URLs.
- Containerized the backend using **Docker** with a multi-stage build process, streamlining production deployments and ensuring consistency across development and cloud environments.