Amithesh Sathish

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Summary

Recent Computer Science graduate with internship experience in software engineering, AI/ML, and data engineering. Built ML pipelines, chatbots, and cloud systems using Python, GPT APIs, Spark, and AWS. Strong foundation in machine learning, generative AI, and full-stack development. U.S. Citizen.

SKILLS

- Programming Languages: Python, SQL, JavaScript, Java, C++, Bash
- Frameworks & Libraries: React.js, Flask, Streamlit, scikit-learn, Pandas, NumPy, PyTorch, LangChain, HuggingFace,
- AI/ML & GenAI: GPT-4.0, OpenAI API, Embeddings, RAG, LLM fine-tuning, prompt engineering, Pinecone, FAISS, autonomous agents, agentic workflows, Vector Databases
- Data Engineering: Apache Spark, ETL pipelines, REST APIs, MySQL, PostgreSQL
- Cloud & DevOps: AWS (Lambda, EC2), Docker, Terraform, GitHub Actions, GitLab, Git
- Concepts: ML pipelines, information retrieval, data analysis, debugging, software testing, asynchronous systems

EDUCATION

• The University of Iowa

Iowa City, IA

Bachelor of Science in Computer Science; GPA: 3.3

Aug. 2020 - June 2025

 Coursework: Database Systems, Computer Organization, Intro to Networks, Data Structures & Algorithms, Linear Algebra, Numerical Methods, Theory of Computation, Probability and Statistics, Software Development.

CERTIFICATIONS

• DeepLearning.AI Prompt Engineering | AWS Cloud Practitioner | Edureka AI/ML | Udemy Agentic Ai | Agentic Ai Openai API

EXPERIENCE

• Warner Music Group

New York, NYC

Software Engineer Intern

Nov. 2023 - Mar. 2024

- Developed machine learning models to predict album and single rankings by analyzing over $100 \mathrm{GB}$ of data.
- Spearheaded automation of ad targeting strategies, achieving a 20% reduction in customer acquisition costs.
- Improved ad targeting and artist campaigns using Python, scikit-learn, and machine learning algorithms, including Linear Regression.
- Researched and experimented with advanced machine learning techniques (e.g., Gradient Boosting, Random Forest, XGBoost) to further improve predictive accuracy.
- Built and optimized data pipelines using tools like Apache Spark and Pandas, reducing data processing time by 40%.

• Quantum Leap Technologies

New York, NY

 $Software\ Engineer\ Intern$

Dec. 2024 - Present

- Worked on Generative AI and Agentic AI initiatives, including LLM fine-tuning, prompt optimization, and autonomous agent workflows.
- Optimized AWS EC2 and Lambda infrastructure, supporting 100k+ concurrent users and cutting API latency by 20%.
- Designed high-performance Apache Spark ETL pipelines with PostgreSQL, reducing batch time from 5 hrs to 3 hrs, improving reliability by 15%.
- Refactored front-end components using React.js and JavaScript, improving load speed by 25% and boosting engagement by 15%.

Projects

• OpenAI Projects (GitHub)

- Built multiple applications leveraging **OpenAI GPT APIs**, **LangChain**, **and RAG pipelines** for text summarization, Q&A, and intelligent chatbots.
- Implemented **embedding-based search** using **Pinecone/FAISS** for scalable document retrieval.
- Designed autonomous agent workflows with prompt chaining and role-based reasoning for task automation.
- Deployed prototypes using **Streamlit and Flask**, integrating APIs for real-time interaction.

• Sanji AI Chatbot

- Created a chatbot using **GPT-3.5**, **Python**, **React**, **and Prompt Engineering** for recipe generation.
- Improved frontend UI responsiveness, caching efficiency, and asynchronous backend performance.