

SUKRUTH MOTHAKAPALLY

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Work Experience

AI Software Engineer

Feb 2025 - Present

[PredictaBio Innovations](#), Brighton, MA (Python, LLMs, FastAPI, Airflow, Neo4j, Azure)

- **Founding engineer** owning backend development of AI-driven **MVP** for synthetic biology startup; architecting **3 multi-agent** microservices predicting **protein interactions** and Airflow pipelines automating biodiverse data integrations.

AI Software Engineer

Jan 2024 - Aug 2024

[PipeIQ.ai](#), Palo Alto, CA (Python, LLMs, FastAPI, Airflow, AWS, Postgres)

- Part of **founding team**, **owned 4** core microservices for the startup's **MVP** (Python/Node.js, AWS Lambda/DynamoDB/S3), accelerating time-to-market by a **quarter**.
- Engineered a multi-agent '**AI Copilot**' (OpenAI, scikit-learn, and LangChain), personalizing and automating email generation, intent classification, and campaign creation, directly driving **70%** revenue growth.
- Developed **RAG**-based chatbot (OpenAI, FAISS) for real-time sales insights cutting customer query resolution time by **35%**.
- Designed schemas for **8** features and built **Airflow** DAGs to ETL **50K+** leads from **10+** sources for AI-driven personalization.

Graduate Teaching Assistant

Jan 2023 - Dec 2024

[Northeastern University](#), Boston, MA (Python, ML, Object Oriented Programming)

- Designed and graded assessments for **40+** students in the courses - **Data Structures** and **Algorithms**, and **Data Science**.

Systems Engineer

Dec 2020 - June 2022

[Infosys](#) ([Intel](#)), Bangalore, India (Python, C++, MySQL, CI/CD)

- Automated Intel **GPU/SSD** driver deployments via C++ CLI tools and Ansible on Linux, configuring **10K+** enterprise systems.
- Built Python framework with **50+ test cases** for SSD firmware validation, improving system throughput by **15%**.
- **Re-engineered** driver updates using Python/Shell **parallel scripting**, slashing deployment time by **30%** for **1M+** users.
- Optimized CI/CD pipelines (Jenkins/Git) with automated unit/integration tests, reducing driver build failures by **25%**.

Full-Stack Developer Intern

Feb 2020 - Mar 2020

[Infosys](#), Mysore, India (JavaScript, MERN, Agile)

- Built **5+** APIs (Node.js/Express.js) enabling filtering of **1K+** workforce datasets for skill gap analysis, cutting latency by **40%**.
- Designed **2** React dashboards visualizing real-time skill metrics, adopted by **200+** HR users to optimize talent allocation.

Software Developer Intern

Jul 2018 - Aug 2018

[Bosch](#), Bangalore, India (Python, Node.js, REST, AWS)

- Automated **500+** daily shipment status syncs via **30+** APIs (FedEx/DHL) using Python/Node.js, reducing manual tracking.
- Optimized **15** DB queries and Dockerized app, cutting processing time by **30%** with zero downtime on AWS ECS.

Personal Projects

[Personalized AI Job Tracker – Full-Stack App](#) (Python, LLM, FastAPI, Postgres, AWS, Docker, Prefect)

- Developed a **multi-agent AI Chrome extension** to automate job tracking, deployed on AWS with Docker and CI/CD.

[Custom LLM & GPT Fine-Tuning with Multi-Agent AI](#) (PyTorch, LLM, LoRA, RLHF, NLP, Deep Learning)

- Built a GPT based LLM with multi-agent AI using **LoRA**, **RLHF**, and instruction backtranslation for aligned response generation.

[Audio Emotion Classifier with Deep Learning and Parallel Computing](#) (Python, PyTorch, CNN, NLP)

- Built an audio emotion classifier using DL, **NLP**, and parallel computing to efficiently detect complex emotion patterns.

[AI-based Stack Overflow Full-Stack App](#) (Python, LLM, Airflow, Docker, FastAPI, CI/CD, GCP)

- **Led a team of 3** to build a Dockerized full-stack app integrating multi-AI agents into **Stack Overflow**, deployed on GCP.

Technical Skills

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|-------------------------------|--|
| • Programming | - Python, Java, C++ |
| • AI LLM | - multi agents, RAG, function call, prompting, fine-tuning, LangChain, LlamaIndex. |
| • ML NLP | - TensorFlow, Sklearn, PyTorch Transformers, Hugging Face, Embeddings. |
| • Backend | - RESTful APIs, microservices, system design Flask, FastAPI, Django. |
| • Data Eng Analytics | - Airflow, Snowflake, Pandas, NumPy, Excel, Tableau, Matplotlib, Seaborn. |
| • Databases | - SQL (PostgreSQL, MySQL), NoSQL (MongoDB, Redis), Elasticsearch. |
| • Cloud Services | - AWS (SQS, Lambda, ECS), GCP (CloudSQL, Pub/Sub), Azure. |
| • Devops CI/CD | - Git, GitHub Actions, Docker, Terraform. |
| • Parallel Computing | - Cuda, multi-threading, async. |

Education

[Northeastern University](#), Boston, MA

Dec 2024

Master of Science in Computer Software Engineering

3.8 / 4.0

Relevant Courses: Data Structures and Algorithms, Data Science, Advances in LLMs, Cloud, Big Data, Parallel Computing.

[Visvesvaraya Technological University](#), Bangalore, India

Sep 2020

Bachelor of Engineering in Computer Science and Engineering

3.0 / 4.0