# Gopala Bhamidipati

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## EDUCATION

**University College London** Sep 2024 – Sep 2025
*MSc Artificial Intelligence and Data Engineering, Merit* London, UK

- Relevant Coursework: Engineering for Data Analysis, Applied Deep Learning, Introduction to Machine Learning, Software Development Practice, Requirements Engineering and Software Architecture

**Queen Mary, University of London** Sep 2021 – Jun 2024
*BSc Computer Science, First Class Honours* London, UK

- Relevant Coursework: Algorithms and Data Structures, Distributed Systems, Big Data Processing, Database Systems, Software Engineering, Object-Oriented Programming, Web Technology

## SKILLS

**Languages**: Python, Java, Go, C#, SQL, PHP
**DevOps & Cloud**: Azure (OpenAI services), Linux, Docker, RabbitMQ, Redis, Terraform, Ansible, Git, BeeGFS
**AI & Data**: PyTorch, TensorFlow, Pandas, NumPy, Matplotlib, Hadoop, Spark
**Web & APIs**: FastAPI, React, Django, JavaScript, HTML, CSS

## EXPERIENCE

**AI Software Engineer** Jun 2025 – Sep 2025
***International Federation of Red Cross and Red Crescent Societies*** London, UK

- Engineered and deployed LLM-based summarisation pipelines for the IFRC GO platform using Python and Azure OpenAI, processing unstructured emergency reports at a global scale as part of a UCL IXN project
- Reduced emergency report processing time from hours to minutes, accelerating decision-making and enabling real-time operational learning across international response teams
- Evaluated summarisation quality using G-Eval metrics and multiple rounds of structured human user testing
- Built scalable data ingestion workflows to modernise legacy systems, improving response efficiency and reducing information redundancy

**Teaching Assistant** Sep 2022 – Dec 2022
***Queen Mary, University of London*** London, UK

- Improved 50+ students' performance by simplifying complex computing concepts such as binary representation and assembly language, ensuring accessibility for learners from diverse backgrounds

## PROJECTS

**Job Orchestration System (***Python, FastAPI, Celery, RabbitMQ, Redis, Docker)* Nov 2025 – Dec 2025

- Implemented a job orchestration system with explicit job lifecycle management, including submission, state transitions, and failure handling
- Built a Redis-backed control plane to persist and coordinate job state across services, ensuring consistency and recoverability under restarts
- Exposed a minimal FastAPI-based control API to submit jobs and query execution state, cleanly separating orchestration from execution
- Integrated RabbitMQ for durable message queuing, enabling independent scaling of API and worker services
- Containerised the system using Docker to enforce service isolation and manage inter-service communication

**Distributed Data Processing System (***Python, Terraform, Ansible, Spark, BeeGFS)* Jan 2025 – Apr 2025

- Designed and provisioned a scalable distributed data processing pipeline across a 5-node cluster using Terraform for infrastructure provisioning and Ansible for configuration management
- Achieved 35-hour continuous data processing with zero system downtime during sustained load testing
- Implemented Apache Spark's collaborative filtering using Alternating Least Squares (ALS) algorithm, leveraging BeeGFS for high-throughput parallel file storage and I/O-intensive workloads
- Secured cluster access using SSH key-based authentication and host-based firewall configuration
- Deployed Prometheus and Grafana for real-time cluster monitoring and system metrics visualisation

**Reddit Sentiment Summariser** *(Python, Django, HTML, CSS, JavaScript, SQL)* Sep 2023 – Jun 2024

- Developed a web application for analysing Reddit content, implementing VADER and Pegasus-X for sentiment analysis and text summarisation, using REST APIs to automate data mining across 100+ Reddit posts
- Reduced API latency by 30% by refactoring a scaling Django backend and adding SQL-based authentication