Deepak Mohan

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Relevant Experience

The Access Group **April 2025 - Present**
Software Engineer *Loughborough, United Kingdom*

- Built and maintained scalable backend microservices for financial systems using **Python**, **Django** and **FastAPI**.
- Developed high-throughput **REST APIs** to support real-time financial reporting and analytics workflows.
- Optimised **PostgreSQL** queries and indexing, reducing report generation latency from **8s to 3s**.
- Integrated **Redis** caching layers for frequently accessed financial reference data, reducing database load by **30%** and improving API response times from **180ms to 60ms** under peak load.
- Developed automated unit and integration tests using **PyTest** to validate backend functionality.
- Built asynchronous services using **FastAPI** for background task processing and third-party API integrations.
- Developed FastAPI REST endpoints integrating **Azure OpenAI** to power a Copilot-style assistant.
- Containerised backend services using **Docker**, improving CI/CD pipeline reliability and ensuring consistent builds.

Graduate Software Engineer → Junior Software Engineer **Aug. 2023 - March 2025**

- Delivered full-stack features using **Python, Django, React**, and **TypeScript** across multiple services.
- Contributed to the modernisation of an internal Learning Management System supporting **8,000+ employees**, refactoring legacy frontend and backend modules to improve maintainability and UI responsiveness.
- Built and maintained **RESTful** APIs, ensuring consistent request/response patterns and API reliability.
- Implemented **JWT** based authentication and **OAuth 2.0** authorisation to secure API access across services.
- Built reusable **React** components and managed application state to deliver maintainable, responsive user interfaces.
- Achieved **80%+** test coverage using **PyTest** and **Jest**, improving reliability and reducing regressions.

Inhealthcare (Acquired by ResMed) **Sept. 2022 - March 2023**
Application Developer *Harrogate, United Kingdom*

- Developed backend services for healthcare platforms supporting **50,000+ patients** across the UK.
- Designed **REST APIs** for seamless interoperability across critical **NHS** platforms and services.
- Built reusable **Java** and **Groovy** libraries to support scalable service development and reduce code duplication.
- Optimised backend services and API workflows to improve application performance and responsiveness.
- Authored automated unit and E2E tests using **JUnit** and **Cypress**, with API validation using **Postman**.

Regex Software Services **Jan. 2021 - April 2021**
Data Science ML, DL Intern *Remote*

- Analysed large-scale datasets using **Python** libraries (Pandas, NumPy) to support mortgage payback prediction.
- Trained machine learning models using **Scikit-learn**, performing data analysis & visualisation on **10,000+** records.
- Boosted classification accuracy to **85%** through hyperparameter tuning reducing projected lending loss by **$50,000**.

Projects

MSc Dissertation - Real-Time Emotion Detection System | *Python*

- Developed a CNN based **Deep Learning Model** to build a real-time facial emotion detection system using the FERPlus dataset. Employed Keras ImageDataGenerator and learning rate scheduling to boost accuracy by **8%.**
- Utilised Python libraries (**Pandas, NumPy**) for data analysis and numerical computations. Developed multiple models employing **Keras API** to achieve an optimal accuracy of **81%**.

Technical Skills

Languages: Python, Java, TypeScript, SQL
Technologies: Django, Django REST Framework, FastAPI, Spring Boot, React, JWT, OAuth 2.0, PyTest, Jest, Git
Infrastructure: Azure, AWS, PostgreSQL, Docker, Redis
AI Tooling: Azure OpenAI, GitHub Copilot, Claude Code, Devin

Education

University of Leeds **Sept. 2021 - Sept. 2022**
Master of Science in Advanced Computer Science ***Grade: Merit*** *- Leeds, United Kingdom*

University of Pune **June 2018 - Aug. 2021**
Bachelor of Computer Applications ***Grade: Distinction*** *- Pune, India*

Achievements

- Fast-tracked from **Graduate** to **Software Engineer** within **1.5 years** for strong delivery and peer recognition.
- Awarded **merit-based scholarship** by the **University of Leeds** for academic excellence.