

Miraj Pudasaini

AI Engineer

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Work Experience

Forward Deployed Full-stack Engineer (Airflow, Python, SQL, ETL, Databricks, Azure) June 2025 – Present

I Tech Care LTD | London

- Design and build high-performance data pipelines utilizing Databricks and Apache Spark connectors in Airflow to extract, transform and load prices and market tickers from well-known stock exchanges into Azure Data Lake Storage and related Azure services.
- Develop and maintain secure data warehouses and lakehouses through robust data models, comprehensive quality checks and stringent governance practices.
- Designed and deployed data infrastructure that improved the productivity of the data team by 40% by aiding collaboration on data quality analysis and data ingestion.
- Designed and deployed numerous vertical AI agents performing RAG on EODHD time-series tickers to automate financial market data analysis.
- Spearheaded the implementation of a hybrid BM25 and Titan-embedding search over millions of financial series, gated by nDCG@10 and P@12.
- Facilitated automated reporting of data and data-process health to detect failures and anomalies before they occur, saving client resources.

Data Engineer (Dagster, Snowflake, Excel, Python, SQL, AWS) Feb 2023 – May 2025

Zola Analytics | London

- Engineered an ETL data pipeline, replacing Excel workflows with a modern tech and data stack of Dagster and custom Python/Pandas solutions, increasing ingestion frequency by 60% while improving monitoring and alerting to improve the organisational data process by 80%.
- Optimised Zola's data platform, built in Python, SQLAlchemy, Neo4j and TimescaleDB, to improve security and cut transaction time by 70%, and saved on the monthly AWS storage bill by applying best database design patterns.
- Saved company resources multiple times by triaging AWS compute and detecting anomalies in cloud infrastructure and serverless architecture, accurately diagnosing memory leaks in the system and deploying quick fixes.
- Designed and implemented bespoke API clients to orchestrate the migration of huge databases such as OECD, IMF, BIS and FRED, and dimension-modelled the time-series data to fit the Zola data platform.
- Collaborated with the machine learning and AI team to design and deploy an agentic large language model that performs RAG on macro time-series data to automate chart creation.

Full-stack Software Engineer April 2019 – June 2020

Green Codes | Kathmandu, Nepal

- Instrumental in modernising a legacy Java-based internal CRM application to Node.js, React and Next.js, eliminating bottlenecks and latency in API responses and making the company CRM and dev tools 12% faster.
- Collaborated as part of a customer-centric agile team to develop and maintain RESTful APIs written in Spring Boot and deployed on AWS.

- Spearheaded the implementation of an AWS DevOps pipeline to switch to serverless, cutting the company's CI/CD operating cost by 20%.
- Improved SQL queries so that the user retrieval process consumed 20% less database resources.

Projects

ContextTrace (pudasainimiraj.github.io/ContextTrace)

Solo, Oct 2026

Semantic search over GitHub discussions · TypeScript, React, Cloudflare Workers, Workers AI, Supabase pgvector

- Built a retrieval service that answers questions about a repository with passages linked to the source issue or PR comment.
- Designed an incremental, idempotent ETL on Cloudflare Queues with deterministic passage ids and content hashes.
- Ran the service entirely on free tiers with budget ledgers, job leases and retries; cut transform CPU 4 to 6x.
- Measured quality on a frozen 25-question set: Hit@3 0.65, thread Hit@5 0.95; the keyword baseline scored 0.05.

Education

York St John University (*awarded Upper Second Class, 69.6%*)

Feb 2021 – Feb 2023

London, United Kingdom

Master of Science | Computer Science

University of Wolverhampton (*awarded First Class with Honours, 75.8%*)

Sept 2017 – July 2020

Herald College Kathmandu · Kathmandu, Nepal

Bachelor of Science (Hons) | Computer Science