Dhanush Aravind

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Summary

Master's student in Computing (Data Analytics) with hands-on experience in data engineering and applied AI projects. Built practical **Model Context Protocol (MCP)** systems for End-to-End AI-powered Business intelligence system and created **AI Build Router-Intelligent Code Orchestration System**. Strong foundation in **Python, SQL, ETL, AWS and Databricks, LangGraph**, with experience working in collaborative, agile engineering environments.
Authorized to work in Ireland - STAMP 1G

Technical Skills

Programming & Data Tools: Python, Pandas, SQL, Databricks
AI / Machine Learning: LangGraph , Retrieval-Augmented Generation (RAG), Model context protocol (MCP), PyTorch, scikit-learn
Data Engineering & Cloud: Data Pipeline, Airflow, Spark, AWS (S3, RDS, Lambda, EC2)
Databases & Platforms : PostgreSQL, Docker, GitHub
AI-Assisted Development: GitHub Copilot, Claude API, Cursor

Experience

Data Analyst Intern Jan 2023 – Jun 2023
Cloud Gramam *Bangalore, India*

- Analysed and cleaned web and social media datasets using **Excel** and **SQL** to support marketing and performance reporting.
- Built **Power BI** dashboards tracking campaign engagement and content performance across channels, used directly by the marketing team for weekly decision-making.
- Developed reusable **SQL** queries and **Power BI** templates that cut weekly report preparation from manual effort to a repeatable, stakeholder-ready workflow.

Projects

AI-Powered SaaS Business Intelligence Engine for B2B | *Python, FastAPI, PostgreSQL, MCP, OpenAI, AWS*

- Designed a production-grade **3-layer architecture**: **PostgreSQL** warehouse with analytical views, a **FastAPI MCP layer** exposing governed REST endpoints, and an AI reasoning layer ensuring the LLM never queries the database directly.
- Built **ETL** pipelines in Python to ingest **SaaS** business data into **PostgreSQL** warehouse views (MRR, churn by plan, revenue by region, support-churn correlation) with intent-based context filtering and ranking-safe natural language handling for executive-grade answers.
- Deployed on **AWS EC2** with **RDS** (**PostgreSQL**) and **S3**, featuring session-based conversation memory, environment-isolated credentials, and a minimal chat UI for natural language business querying.

AI Build Router- Intelligent Code Orchestration System | *Python, LangGraph, Claude API, E2B, Git*

- Designed a **LangGraph**-based orchestration pipeline that decomposes project ideas into modules, routes each to the best AI tool using a weighted scoring matrix, and generates code in parallel **Git worktrees** with automatic retry and fallback.
- Built a multi-stage quality pipeline: automated **code review** (Claude), compile/lint validation, conflict resolution on sequential merge, and **E2B sandbox** testing before deployment.
- Implemented a 3-failure escalation pattern with checkpoint-based state recovery, ensuring no work is lost on agent failure across parallel workflows.
- Integrated **CI/CD** with GitHub PR creation, staged rollout, and a human-in-the-loop approval gate pausing execution for client sign-off before production deploy.

Certifications

AWS Certified Data Engineer – Associate

Google Data Analytics Professional Certificate (Coursera)

AI Engineer Core Track: LLM Engineering, RAG, QLoRA Agents Certificate (Udemy)

Education

Dublin City University (DCU) Sept 2024 – Sept 2025
Master's in Computing (Data Analytics) *Dublin, Ireland*
Anna University Jul 2019 – May 2023
Bachelor of Engineering – Computer Science Engineering *Chennai, India*