



Professional Certificate in Data Engineering™

Build the foundation to launch your
career in modern data engineering.

Overview

The Professional Certificate in Data Engineering by the Global Institute of Artificial Intelligence (GlofAI) is a 6-week, intensive, hands-on program designed to equip aspiring data professionals with the skills and tools needed to design, build, and manage modern data pipelines.

Through a blend of theory, practical labs, and a real-world capstone project, you'll master data modeling, ETL/ELT workflows, cloud fundamentals, and data quality best practices — all under the guidance of industry mentors.

This program is the first stage of GlofAI's comprehensive Data Engineering Pathway, leading into the Executive, Advanced, and Executive Leadership programs.

Outcome	Cohort Starting Date
Junior Data Engineer	26 th Feb, 2026
Cohort	Duration
20 - 25	6 Weeks (Intensive)

Why students struggle – and how we solve it

We designed the program around the real gaps that block fresh graduates from landing data roles.

Academic Knowledge ≠ Job Skills

Universities teach theory, not the tools and workflows employers expect.

Our Solution

- Hands-on labs with real datasets
- Industry-standard tools (Python, SQL, Airflow, Docker)
- Production-style project workflows

No Real Portfolio

Graduates lack projects that demonstrate practical data engineering skills.

Our Solution

- 6+ portfolio projects
- Real-world datasets and scenarios
- GitHub-ready code



Limited Industry Connections

Graduates struggle to network and understand job market expectations.

Our Solution

- Career coaching sessions
- Industry mentor support
- Job placement assistance

Time to Job-Ready

Self-learning takes too long and lacks structure.

Our Solution

- Structured 6-week intensive
- Live sessions + self-paced
- 24/7 mentor support

Everything you need to go from uni to job-ready

Live sessions, self-paced learning, hands-on labs, and real-time mentor support.



Live Weekly Sessions

Interactive sessions with industry experts covering core concepts and real-world applications.



Hands-on Labs

Practical exercises using real datasets and industry-standard tools.



Portfolio Projects

Build 6+ production-ready projects to showcase your skills.



24/7 Mentor Support

Get help whenever you need it from experienced data engineers.

Curriculum Structure

Each week combines theory, guided labs, and a production-style project.

Week 1 – Data Engineering Foundations & SQL Basics

► Objectives:

Understand data-engineering roles, pipelines, and data lifecycles. - Learn basic SQL for querying structured data.

► Topics:

- Data-engineering overview: ETL vs ELT, data lake vs warehouse.
- Intro to relational databases (PostgreSQL / SQLite).
- SQL basics: SELECT, WHERE, ORDER BY, JOINS, aggregations.
- Cloud database intro (AWS RDS / Azure SQL).

► Case Study

Week 2 – Advanced SQL & Relational Modeling

► Summary :

- Master intermediate–advanced SQL, Design efficient relational schemas.

► Topics:

- GROUP BY, HAVING, subqueries, CTEs, window functions.
- Normalization (1NF – 3NF), keys, constraints, indexes.
- PostgreSQL

► Case Study

Week 3 – Python for Data Engineering

► Objectives:

- Use Python for data collection, cleaning, and automation.

► Topics:

- Python basics: variables, loops, functions, error handling.
- Working with CSV/JSON files.
- Pandas & NumPy for data manipulation.
- Calling APIs and loading data into databases.
- Git/GitHub for version control.
- Linux command-line fundamentals.

► Case Study

Week 4 – Apache Spark Basics

► Objectives:

- Understand Spark architecture and why it is used in data engineering.
- Learn Spark core concepts and hands-on basics.

► Topics:

- What is Apache Spark?
- Spark architecture: Driver, Executors, Cluster Manager
- Spark components overview (Core, SQL, Streaming, MLlib)
- SparkSession & SparkContext - RDD basics
- DataFrame creation & basic transformations
- Reading and writing data (CSV, JSON, Parquet)
- Introduction to Spark SQL

► Case Study

Week 5 – Real-Time Data & Cloud Infrastructure (Introduction)

► Objectives:

- Understand real-time data concepts and modern cloud infrastructure.
- Learn how data flows in real-time systems.

► Topics:

- Batch vs Real-Time vs Near Real-Time processing
- Message queues & streaming fundamentals
- Intro to Pub/Sub architecture
- Overview of Kafka, Event Hub, Kinesis
- Cloud infrastructure basics (Azure, AWS, GCP)
- Compute, Storage, Networking fundamentals for data engineering
- Introduction to serverless components

► Case Study

Week 6 – SQL on Databricks (Community Edition) & Capstone Project

► Objectives:

- Learn SQL development inside Databricks environment.
- Understand how SQL integrates with Spark and Delta Lake
- Apply SQL to build analytical datasets.

► Topics:

- Databricks SQL Workspace Overview
- SQL Editor & Notebooks
- Creating Views, Tables, Managed & External Tables
- SQL Functions & Built-in Transformations, File Formats
- Understanding Delta Tables through SQL

Capstone Project: Retail Sales ETL on Databricks (Beginner Level)

► Tech Stack:

- Databricks, PySpark, Delta Lake

► Business Use Case

Process daily retail sales files coming into cloud storage and build a Delta Lake table for reporting.

End-to-End Pipeline

Showcase everything you learned in one production-style build. This is the centrepiece of your job portfolio.



GlofAI Professional Certificate

Earn an industry-recognized credential and a digital badge you can add to your LinkedIn within minutes of completion.

- Shareable digital badge (Open Badge standard)
- One-click verification for recruiters and hiring managers
- Certificate ID & QR for resumes and portfolios
- Aligned to Australian data engineering job competencies



LinkedIn-ready



Verifiable



Official GlofAI

Portfolio Outcomes



GitHub portfolio with 3–4 production-level projects + capstone architecture



Architecture diagrams, documentation, and demo videos



Verified GlofAI digital badge for LinkedIn & resume



Technical interview confidence for Australian market



Lifetime access to alumni/job network (on completion)



Program Support & Career Services

- ▶ Architecture diagrams, documentation, and demo videos
- ▶ Resume, LinkedIn, portfolio workshops; one mock technical interview
- ▶ \$200 cloud credits; access to Snowflake, dbt Cloud, and more
- ▶ 24/7 Discord community & weekly office hours
- ▶ 3 months of job search assistance
- ▶ Weekly code review with line-by-line feedback
- ▶ Industry guest lecture with Australian employer insights



Why Choose GlofAI ?

- ▶ **Practical Skills:** Real-world portfolio projects build employer confidence.
- ▶ **Mentorship:** One-on-one guidance from expert data engineers (3 sessions included).
- ▶ **Career Coaching:** Resume help, LinkedIn optimization, mock interviews, and 3 months job search support.
- ▶ **AI Ethics:** Learn responsible AI, compliance, privacy, and integrity skills to stand out at interview.
- ▶ **Australian Market:** Curriculum aligned to local employer needs.

Continue Your Growth

After Week 6, upgrade to :

- **Executive Program** (12 weeks) — upgrade to accelerate toward Senior Data Engineer.
- **Advanced Program** (24 weeks)
- **Leadership Program** (1 year)



GlofAI alumni discount: **20% off** any advanced program within 12 months.

Mentorship and Faculty



Sandeep Bhalekar

CEO & Technical Director, GlofAI

“The Professional Certificate sets the foundation for your data engineering career — you’ll not only learn tools, but understand how real data ecosystems work in production.”

Learn from top-tier mentors — data engineers, architects, and AI practitioners from organizations such as AWS, Microsoft, and Databricks.

Faculty combine academic depth with industry experience, ensuring your learning is practical and career-ready.

Student Testimonial

Mentorship Feedback



1:1 Mentorship Session

The course gave me a clear understanding of where Data Engineering can make a noticeable impact in an organization, which helped guide my learning. I also gained a solid understanding of the market and the available roles I can pivot into, as well as a good idea of the salary range I can expect at the start. Additionally, I learned which organizations I should research and what I want from a business while looking forward to getting tips on improving Interview skills.

- Joseph



Mentorship Feedback



1:1 Mentorship Session

The mentor introduced me to various certifications and provided valuable insights on how to set up and enhance my LinkedIn profile. I learned different ways to showcase my skills, including building a learning blog, and discovered groups and networks to join for professional growth. The guidance also encourages me to transition from online meetups to in-person networking events, which has been incredibly beneficial.

- Data Engineering Programme Participant





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