

# ZIEGEN BALG BENJAMIN J

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## OBJECTIVE

B.Tech graduate in **Artificial Intelligence and Data Science** with a strong foundation in **AI/ML, data analytics, and visualization**. Skilled in **Python, SQL, and Power BI** for deriving actionable insights. Hands-on experience in machine learning, deep learning, and generative AI tools such as **LangChain and Neo4j**.

Eager to apply AI/ML expertise to develop innovative solutions and contribute data-driven organizational growth.

## EXPERIENCE

### HTC Global Services

Data and AI Intern

April 2025 - July 2025

- Developed complete RAG pipelines using **LangChain & OpenAI** with LangSmith for monitoring
- Built Neo4j knowledge graphs from relational data using **Runway + OpenAI Discovery**
- Designed **3 Fast API endpoints**: document upload, LLM querying, metric retrieval (cost, token, latency)
- Integrated **Langfuse** for full observability in QA workflows
- Created **Graph-based Q&A pipelines** using LangGraph with Text to cypher, validation, and correction nodes
- Contributed to **MCP server** with tool-chaining capabilities for LLM operation.

## SKILLS

**Programming:** Python, CSS, HTML, Java(Basics)

**Databases:** Oracle, Neo4j, MySQL •

**Tools:** GitHub, VS Code, Tableau, Power BI, Excel, Cursor ai

**Frameworks:** Pandas, NumPy, Scikit-learn, OpenCV, Langchain, Langsmith, Langfuse, TensorFlow, Pytorch

**Cloud & API:** AWS, FastAPI, MCP

**Concepts:** EDA, Machine Learning, Deep Learning, Feature Engineering, Generative AI, Data analytics

## EDUCATION

### Jeppiaar Engineering College

Bachelor of Technology in Artificial Intelligence & Data Science - 8.5

2021 - 2025

### St. Joseph Academy Matric Higher Secondary School, Kallakurichi

Higher Secondary - 89

2020 - 2021

## PROJECTS

### Real-Time Crime Prediction (ResNet, TensorFlow)

- Developed a deep learning model for **criminal face recognition**, integrating **OpenCV** for real-time detection.

### Knowledge Graph Analytics (Neo4j + LangGraph)

- Engineered a pipeline converting relational data into a **Neo4j knowledge graph** with semantic query support via **natural language**.

### Unified AI Agent Platform (RAG + FastAPI)

- Integrated **RAG and Graph QA** workflows with Langfuse monitoring, reducing query latency by 40%

### SQL Agent for RDBMS Querying (LangChain, LangSmith, SQL)

- Built schema-aware **LangChain agents** to translate NL queries into SQL with LangSmith for **debugging and latency monitoring**.

### Disease Prediction Model (Python, Scikit-learn, Pandas, NumPy)

- Built a **machine learning model** to **predict diseases** from patient health data, enabling early diagnosis and better clinical decision-making.

## CERTIFICATE

Google Data Analytics - Coursera

Python Certification-Imarticus

Generative AI Fundamentals – Databricks

Deep learning Certificate-Udemy