

# GOKUL PRASATH RADHAKRISHNAN

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A Data Science graduate with an MSc in Artificial Intelligence and Machine Learning from the University of Birmingham, holding almost 2 years of professional experience in data engineering. Proficient in designing ETL pipelines, Azure cloud tools, and AI/ML techniques, actively seeking opportunities to leverage skills in Data Engineering and AI to make a meaningful impact.

## Education

<b>MSc Artificial Intelligence &amp; Machine Learning</b> , University of Birmingham. <b>Modules:</b> Neural Computation, Intelligent Data Analysis, Computer Vision, Evolutionary Computation.	09/2023 - 09/2024 United Kingdom
<b>MSc, Data Science</b> , Coimbatore Institute of Technology <b>Modules:</b> Statistics, Machine Learning, Natural Language Processing, Cloud Computing, Big Data (Hadoop).	07/2016 - 05/2021 India

## Professional Experience

<b>Senior Data Engineer</b> , Addend Analytics, Mumbai, India	08/2021 - 05/2023
<ul style="list-style-type: none"><li>Built robust ETL pipelines for data integration across cloud and on-premise systems.</li><li>Authored optimized stored procedures and performed data migrations and warehousing projects.</li><li>Designed scalable ETL architecture tailored to business and technical requirements.</li><li>Managed CI/CD pipelines using Azure DevOps for automated deployments.</li><li>Tuned complex SQL queries for performance and scalability.</li><li>Administered and maintained Azure databases, including Azure SQL and Cosmos DB.</li><li>Implemented Identity and Access Management (IAM) solutions ensuring secure data access.</li><li>Developed and executed cloud cost optimization strategies across Azure services.</li><li>Created Power BI reports with Power Query, publishing interactive dashboards.</li></ul>	
<b>NLP and Chatbot Intern</b> , bitWise Academy, USA (Remote)	12/2020 - 05/2021
<ul style="list-style-type: none"><li>Build a contextual AI tutoring chatbot (RASA) for primary students to support course-related tutoring.</li></ul>	
<b>Data Science Intern</b> , Credo Systemz, Chennai, India	06/2019 - 11/2019
<ul style="list-style-type: none"><li>Built a customer propensity model to predict course enrolment likelihood.</li></ul>	

## Skills

<ul style="list-style-type: none"><li><b>Programming &amp; Scripting:</b> Python, R, T-SQL, Dynamic SQL, FastAPI, Matplotlib</li><li><b>Data Engineering &amp; ETL:</b> Azure Data Factory (ADF), Azure Synapse Analytics, Azure Data Lake, Azure Event Hub, Azure Function App, Azure Logic Apps, Google BigQuery.</li><li><b>DevOps &amp; Infrastructure:</b> Terraform, ARM Templates, CICD, Azure Devops, Docker.</li><li><b>BI &amp; Reporting:</b> Power BI, Power Query.</li></ul>	<ul style="list-style-type: none"><li><b>Databases &amp; Storage:</b> Azure SQL, Azure Cosmos DB, SQLite, Data Warehousing, Data Modelling.</li><li><b>Machine Learning &amp; AI:</b> Scikit-learn, PyTorch, TensorFlow, Keras, LangChain, Groq (LLaMA3), LLM, PySpark, Generative AI, Predictive Modelling, NLP.</li><li><b>Data Security &amp; Governance:</b> IAM, Data Security Practices, Governance Frameworks.</li></ul>
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## Coursework and Project

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1. **Interpretable Machine Learning for Customer Behaviour Prediction | [Link](#)**  
Developed a model to evaluate interpretability for algorithms. Designed metrics to balance accuracy and transparency, improving insights into customer behaviour predictions.
2. **Chat with SQL DB – Natural Language SQL Query App using Streamlit & LangChain | [Link](#)**  
Developed a dynamic Streamlit-based app to interact with SQL databases via natural language using LangChain's create\_sql\_agent and Groq's LLaMA3 model. Enabled support for both SQLite and MySQL with real-time query execution, multi-session chat interface, and performance-optimized with caching and agent streaming callbacks.
3. **Object Detection Using Deep Learning Models – Computer Vision**  
Trained and evaluated object detection models (Faster R-CNN, SSD, YOLO) using TensorFlow 2 on custom datasets. Optimized model performance with Google Cloud AI Platform and powerful GPUs for enhanced training efficiency.
4. **MRI Segmentation – Computer Vision**  
Segmented MRI images using traditional techniques like Otsu thresholding, Canny Edge detection, and Kmeans clustering, achieving 76% accuracy for 2D slices. Extended to 3D segmentation with Mayavi, achieving 70% accuracy.
5. **Optimization Algorithms for TSP – Evolutionary Algorithm | [Link](#)**  
Implemented and optimised Simulated Annealing and Genetic Algorithm for the Traveling Salesman Problem. Improved efficiency by 20% through parameter tuning, analysing performance on datasets of up to 100 cities.
6. **Data Analysis using Principal Component Analysis – Intelligent Data Analysis | [Link](#)**  
Experimented with preprocessing and dimensionality reduction of numerical datasets using Principal Component Analysis to analyse and draw conclusions about the datasets to facilitate model training.
7. **Data Warehousing in Azure SQL – Data Engineering**  
Designed ETL pipelines for multi-country data integration with robust auditing and failure notifications. Enabled incremental data loading and ensured 99.9% reliability.
8. **VSLA 2.0 – Data Engineering**  
Developed event-driven ETL pipelines with multi-language support using Azure Translator, achieving 99.9% reliability.

## Courses and Certifications

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- **Microsoft Fabric - The Complete Guide - Udemy**
- **Azure Databricks & Data Engineering with Spark – Udemy**
- **Microsoft: Azure Administration (AZ-104), Valid till Jan 2026**
- **Microsoft: Azure Relational Database Administration (DP-300), Valid till Feb 2026**

## Leadership & Awards

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1. **Shining Star Award – Q4, 2022, Addend Analytics, India**  
For consistent performance on complex project (VSLA 2.0) and timely delivery with high dedication.
2. **Technical Training Sessions, Addend Analytics, India**  
Delivered 5+ technical training sessions on advanced data engineering topics like Data Warehousing, Advanced SQL and Azure Data Factory to a team of 15 colleagues, improving team efficiency by 25%.
3. **Spot Recognition – Aug 2022, Addend Analytics, India**  
Recognised for the quality and timely delivery of the 'Navitas Semiconductor' project.