# Morris Darren Babu

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## CAREER HIGHLIGHTS

Structured AI/Data Specialist skilled at transforming and automating data workflows. Proficient in AWS, Azure, and Docker for secure cloud-native DevOps. Expert in analytics, ML/DL, and interactive visualization for data-driven decisions. Experienced in GenAI, AI Agents and LLMOps, including LLM evaluation, prompt engineering, RAG, and LoRA/QLoRA fine-tuning. Drives innovation through agile collaboration and Industry 4.0 frameworks.

## PROFESSIONAL EXPERIENCE

**10/2025 – 03/2026**
Bonn, Germany

**Deutsche Telekom,** *MLOps Engineer Intern | LLM Infrastructure & Deployment*
- Built a microservices-based LLM benchmarking framework on vLLM using GuideLLM (latency, throughput) and DeepEval (LLM-as-judge), tracking experiment runs in ClearML to define SLOs for model selection and capacity planning.
- Scaled automated benchmarking via GitLab CI/CD and Kubernetes runners, executing containerized matrix jobs on Hugging Face datasets, publishing reports to Grafana.
- Secured enterprise MLflow deployments on Kubernetes, implementing Keycloak OIDC and OAuth sidecars for SSO, enforcing ingress, TLS, and RBAC to meet compliance.

**05/2025 – 09/2025**
Wolfsburg, Germany

**Volkswagen Group (CARIAD)** ⧉, *Master Thesis | Integrating LLMs In Automotive Systems*
- Implemented AI-driven black-box fuzzing in Azure AI Foundry by benchmarking 16 LLM models, boosting code-flaw detection by 13%, strengthening ECU resilience, and reducing OEM cybersecurity threats.
- Automated test-case generation by containerizing LLM inference services in CI/CD/CT pipelines, cutting test creation time by 33% and increasing code coverage by 7%.
- Designed a secure Azure Private Link for an automated LLM fuzz-testing PoC, replacing manual tests, reducing delays by 10%, and improving automotive software quality.

**10/2024 – 04/2025**
Munich, Germany

**BMW Group** ⧉, *Data Scientist Intern | RAG & LLM Systems*
- Deployed a CRNN surface detection model on AWS SageMaker (EC2, S3) with semantic segmentation, tuning AI parameters and serving results via API to cut false positives.
- Architected a Django Web application for parsing geometric STL meshes and file ingestion, utilizing document chunking pipelines to achieve 8% faster processing.
- Engineered an LLM auto suggestion model utilizing RAG and vector search to identify part issues, via document chunking and data indexing to elevate precision by 12%.

**10/2021 – 09/2022**
Chennai, India

**Crystal Consultancy Services** ⧉, *Data Analyst*
- Monitored and analyzed key performance indicators (KPIs) using SAP R3 data, resulting in a 4% improvement through targeted data-driven decisions.
- Applied Azure Databricks to address slow data processing in the ETL pipeline, optimizing feature engineering and model deployment, enhancing speed by 25%.

**02/2021 – 07/2021**
Texas, USA
(Remote)

**Altascio Technologies** ⧉, *Data Engineering Intern*
- Utilized Excel techniques (Pivot, VBA, VLOOKUP, SUMIFS) to streamline manual aggregation of department spreadsheets, reducing report generation time by 2%.
- Streamlined data extraction and consolidation using SQL to resolve fragmented inventory data, saving 20 hrs/week and reducing inventory update time by 11%.

06/2020 – 12/2020
London, United Kingdom (Remote)

**Jman Group** ⌗, *Python Developer Intern*
- Assisted in developing predictive models with ML algorithms using sensor data to identify clusters, detect outliers and trends, delivering 87% accuracy in field tests.
- Applied end-to-end data science (data collection, EDA, feature engineering, model selection, deployment) to solve ETL pipeline bottlenecks, raising throughput by 27%.

## TECHNICAL SKILLS

| Python (Scikit-learn) | R | C++ | JavaScript | Computer Vision | TensorFlow, PyTorch |

| GenAI (Prompting, RAG, GAN, VAEs, LangChain) | SQL | Snowflake | Power BI | MS Office |

| Azure (Spark, Data Factory, Data Lake) | AWS (EC2, Aurora, CloudWatch) | Keycloak | n8n |

| Git | GitHub Actions(CI/CD) | Docker | Kubernetes (Helm) | MLflow | ClearML | vLLM |

## SOFT SKILLS

| Analytical / Strategic Thinking | Creative | Communication | Problem Solving | Teamwork |

## EDUCATION

10/2022 – 03/2026
**M.Sc. in Data Science,** *Friedrich Alexander University Erlangen-Nuremberg* ⌗
**Subjects** ⌗ : Pattern Recognition, Deep Learning, Generative Artificial Intelligence, Anomaly Detection, Decision Theory, Reinforcement Learning, Statistics, ML in Finance.

06/2018 – 06/2022
**B.E. in Computer Science Engineering,** *Rajalakshmi Institute of Technology, India* ⌗

## PROJECTS

**Material Prediction &  Mesh Dataset Generation with GNNs (Graph Neural Networks)** ⌗
Constructed a custom GNN framework and synthetic dataset of shape/material data, predicting wear with RMSE under 0.1 and supporting end-to-end shape generation and graph visualization.

**Research Project in Open-Source Software for Advanced Data Engineering Techniques** ⌗, *OSS Group*
Forecasted Germany's GDP from 1970 to 2022 in a 6 month open source project by refining time series data, analyzing inflation to GDP correlation and evaluating models via RMSE and MAE metrics. ⌗

**OCR with Handwritten Recognition and Auto Spelling Correction** ⌗, *Bachelor Thesis*
Implemented an NLP-driven spelling correction system using tokenization, language modeling, and Tesseract OCR, exposing it via a scalable REST API and reducing Character Error Rate by 89% on multilingual documents.

**Movie Recommendation System using Hybrid Filtering** ⌗, *Publication*
Created a hybrid recommendation system using collaborative and content filtering with clustering, achieving a 92% Top-K Hit Rate and integrating it into a Flask-based web app for real-time user recommendations.

## CERTIFICATIONS

Predictive Data Analytics for Business Intelligence Nanodegree ⌗ Excel to MySQL: Regression ⌗  Statistics ⌗
DL AI TensorFlow Developer ⌗ Google Cloud Platform IT Automation ⌗  Data Warehousing, Big Data on GCP ⌗

## LANGUAGES

**English:** C1 (Business fluent)  │  **German:** A2 erworben, B1 laufend ⌗  │  **French:** A1  │  **Tamil (Native)**