Vasanthakumar Mohan

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PROFILE

Business Analytics graduate with hands-on experience in Python, SQL, and machine learning. Skilled in data wrangling, exploratory analysis, and predictive modeling using real-world datasets. Strong ability to translate data into actionable insights to support business decisions.

EDUCATION

Dublin Business School	Dublin,Ireland.
Masters of Science in Business Analytics	*Sep 2024 – Oct 2025*
Panimalar Engineering College	Chennai,India.
B.Tech in Artificial Intelligence and Data Science	*Mar 2020 – May 2024*

EXPERIENCE

Machine Learning & Analytics Intern — Jan 2024 – Jun 2024
Circulayo — *Derby, England · Remote*
- Analyzed 50K+ waste records to identify trends in material types, recycling value, and environmental impact.
- Deployed computer vision models (CNNs) to recognize discarded items in AR environments with 85% accuracy.
- Engineered an AR-powered application integrating real-time detection and market value estimation, improving litter pickers efficiency by 25%.

Research Intern — Sep 2023 – Dec 2023
Munjal Birmingham City University Centre of Innovation & Entrepreneurship — *Chennai, Tamil Nadu · Remote*
- Integrated a Translation API with Python into Unity to enable real-time multilingual interaction across 5+ languages.
- Analyzed 50+ user interaction logs from VR sessions, identifying engagement patterns that improved learning activity design efficiency by 20%.

PROJECTS

Customer Segmentation and Campaign Response Prediction | *Python, Scikit-learn, KMeans, XGBoost* — 2025
- Built a machine learning pipeline integrating KMeans clustering with predictive models (Random Forest, SVM, XGBoost) on 10K+ customer records.
- Evaluated segmentation impact on campaign response prediction, achieving an F1-score of 0.81 and AUC of 0.87.
- Generated ROI-driven insights that improved targeting efficiency by 15%.

EmpowerED – Generative AI Assistant for Education | *Python, LangChain, Gemini, Gradio, RAG* — 2024
- Engineered a generative AI assistant supporting 5+ academic use cases including interactive campus tours and automated content creation.
- Integrated LangChain, CSV-QA, and RAG pipelines to deliver personalized responses with 85% query accuracy in testing.
- Built multi-modal features and boosting student engagement by 25%.

Election Result Analysis | *Python, Web Scraping, Tableau,* — 2024
- Scraped and processed 50K+ electoral data points from online sources to analyze state election outcomes.
- Performed exploratory data analysis to identify voting patterns, candidate performance, and demographic correlations.
- Developed Tableau dashboards visualizing 200+ constituencies, enabling analysis and actionable political insights.

TECHNICAL SKILLS

Languages: Java, Python, C/C++, SQL (Postgres), JavaScript, HTML/CSS, R
Frameworks: React, Node.js, Flask, WordPress, FastAPI
Developer Tools: Git, Docker, Google Cloud Platform, VS Code, Visual Studio, PyCharm, IntelliJ, Eclipse
Libraries: Pandas, NumPy, Matplotlib

CERTIFICATIONS

Career Essentials in Business Analysis – Microsoft & LinkedIn (May 2024)
Data Analytics Essentials – Cisco (May 2024)
Requirements Elicitation and Analysis – LinkedIn (May 2024)
AWS Academy Machine Learning Foundations – Amazon Web Services (Aug 2024)