Karujan Jeyaseelan

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Skills

- **Microsoft Office:** Excel, Word, PowerPoint
- **Visualization:** Tableau, Plotly, Seaborn, VBA, Matplotlib
- **Version Control:** GitLab, GitHub
- **IDE:** PyCharm, Visual Studio, Jupyter, Spyder
- **Tech:** Arduino, CAD (SolidWorks)
- **Languages:** Python, Bash, SQL, HTML, MATLAB, C#

Education

University of Cambridge   **Oct 2022 – Jul 2023**
Meng in Electrical & Electronics Engineering
minors: Information and Computer engineering

- Studied relevant modules, including Quantum Technologies, Accounting and Finance, Software Engineering, Power Microelectronics, Computer Vision, and Optical Fiber Communication.
- Focused on the fundamentals of Software Engineering using Python.
- Executed a final year project on light trapping analysis, employing mathematical analysis and numerical implementation (FDTD), securing a 2.1 grade, showcasing strong performance and efficient time management.

University of Cambridge   **Oct 2019 – Jul 2022**
BA in Control Engineering & Instrumentation

- First two years: General Engineering studies. Third year: Specialized in Control Engineering and Instrumentation.
- Established a robust numerical foundation across 10 modules encompassing Mathematical Methods, Quantum Mechanics, Control Systems, Risk Analysis, Photonics, and Partial Differential Equations.
- Explored fundamental principles of Software Engineering as applied in robotics.
- Collaborated in developing a Fruit-Picking Robot with a team of six, applying programming, control systems, and mechanical design skills to achieve a functional and efficient solution.

St Ignatius College   **Sept 2012 – Jul 2019**
A level
Mathematics (A*), Further Mathematics (A), Physics (A*)
GCSE
16 certifications (A*-A)

Courses/Certification

- MIT   - Statistical Thinking and Data Analysis
- MIT   - Matrix Methods in Data Analysis, Signal Processing, and Machine Learning
- Coursera - API development, NumPy, Excel Skills for advanced Business Specialisation
- Kaggle   - Python, Pandas, Data cleaning, Machine learning, Data visualisation, etc
- Harvard   - Statistics 110: Probability
- Tableau   - Desktop specialist certification (in progress)

Professional experience

8-Week SQL Challenge   **May 2024**
Database management and SQL

- Currently participating in the SQL Challenge as part of the Data with Danny virtual internship program.
- Crafted efficient queries for diverse databases, addressing real-world problems.

Accenture   **February 2024**
Data Analyst and Visualisation

- Finished 3-day job simulation advising a hypothetical social media client on optimal content based on past data.
- Cleaned, modelled, and analysed 7 datasets to uncover insights into content trends to inform strategic decisions.
- Created a 12-slide PowerPoint deck and delivered a 10-minute video presentation to convey key insights to the client and internal stakeholders.

Quantium   **January 2024**
Data Analyst

- Accomplished a 5-day data analytics and commercial insights job simulation for the data science team.

– Utilised data preparation and customer analytics, extracted insights from transaction datasets, cleaned data by eliminating empty cells and outliers, and offered valuable, data-driven commercial recommendations.
– Performed analytical techniques, such as filtering, pinpointed 5 benchmark stores for uplift testing, aiding in the selection of top-performing stores and understanding success drivers for replication.
– Made a 15-slide PowerPoint with Seaborn-generated graphs for the Category Manager, enabling informed strategic decisions and enhancing commercial applications based on data insights.

Personal Projects

Each project details and code are available on my interactive GitHub portfolio.

Machine Learning

– Developed a loan approval model using advanced statistical tests and stacked classifiers, achieving 91% accuracy in predicting loan approvals.
– Deployed a diabetes prediction model using key health indicators, achieving reliable performance with a user-friendly web interface.

Statistical Analysis

– Analysed pain relief treatments across age groups, revealing Ibuprofen's overall effectiveness, with age-specific benefits for Acetaminophen and Codeine.
– Applied A/B testing to analyse marketing campaigns, using statistical methods and visualisations to optimize engagement and efficiency.

Deep Learning

– Leveraged statistical tests, DBSCAN, 3D Plotly visualisations, and neural networks to analyse, optimise, and compare predictive models for door dash.
– Predicted medical insurance costs using Tensor flow, outperforming random forests with a Coefficient of Determination of 0.88.

Mathematical Modelling

– Created a Python simulation of roulette to analyse betting strategies and visualise outcomes using interactive graphs.
– Monte Carlo

Reference

Available on request.