

Baron Gracias

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SUMMARY

Data scientist with over **3-years** of experience in technology & payments, showcasing a track record of applying **Python**, **SQL** and **BI tools** to extract insights, deliver projects and make **data-driven decisions**. Strong ability to present insights and tailor communication to a wide range of audiences. Supported critical national infrastructure, explored economic crime, built reliable machine learning models, managed **terabyte-scale databases** and provided **£3m/year** analytics.

Skills: Python, Machine Learning, scikit-learn, pandas, seaborn, T-SQL, PL/SQL, ETL, Power BI, Git, CI/CD, A/B testing.

EXPERIENCE

Mastercard

2022 - Present

Data Scientist II

- **Vocalink:** reporting and analytics on the UK's **critical national infrastructure** real-time payments system (FPS, Bacs, ICS). Applying Python and SQL against **TB-scale** database to analyse trends and extract economic insight.
- **Pay.UK:** created an efficient & scalable rules-based model that classified **250m** accounts as business or personal.
- **Office for National Statistics:** managed collaboration to enhance existing service, successfully deploying a random forest model with Python and oracledb that classifies **15m accounts per month** with over **90%** accuracy.
- **Industry NLP:** assessing financial movement between UK industries by **similarity matching** our transactional text data to Companies House with tfidfvectorizer and nmslib to achieve **95%** accuracy for over **50m** accounts.
- **UK Finance:** automated several regular reporting scripts by implementing **synchronous dependency** processes with Python; minimising points of failure, maintaining regulatory deadlines and resulting to **100%** report availability.
- **Financial Crime:** proof-of-value on phishing data provider; assessed feature vector similarity, early detection rate improvements and presented value-add by implementing **PCA**, **distribution** and **cluster analysis** with scikit-learn.
- **BancNet EDA:** explored the emergence of **economic crime** in the Philippines RTP network, extracted insights on early fraudulent behaviour and identified an instrumental detection feature which **increased ROC AUC by 2%**.
- **Open Banking:** produced a **payment purpose** and **insights** model showcasing rolling expenditure trends and statistics. Implemented into Open Banking offering and increased average sale value by **£10k** over 6 months.

Data Engineer I

2020 - 2021

- **Vocalink Placement:** upgraded **GB-scale** project delivery data warehouse, built ETL pipelines and BI analytics.
- Developed a **predictive** resource management model, allowing PMs to precisely book timesheets and maximise utilisation with an accuracy of **99.6%**. Up to **3x** increase in capacity and **£3m/year** in corrected project financials.
- Built high-impact **Tableau dashboards** providing a real-time view of global project KPIs and created a **"60-second"** daily summary board that enabled senior leadership to make rapid data-driven decisions.

PERSONAL

Sports Director: founded several Mastercard teams to compete in corporate charity events, managed a budget of **£50k** after successful pitches to C-suite. Donated over **£20k** for CRUK and represented USA at the FIFCO World Cup in Crete.

Conferences: representative at ConfX Analytics Summit Amsterdam, HPE Data Science London, and Big Data London.

EDUCATION

University of Bath

2018 - 2022

BSc (Hons) Physics

- **Achieved high first-class:** fine-tuned analytical and abstract problem-solving skills for loosely defined problems.
- **Malvern Panalytical, Industry FYP:** led a team of 4 to develop an HDR laser measurement system with OpenCV.

Certifications

2024

- **Data Science Specialization**, IBM, exploring core research methodologies and applications using Python, SQL, R.
- **Machine Learning Specialization**, DL.AI, covering core ML concepts in un/supervised and reinforcement learning.
- **Machine Learning in Production**, DL.AI, exploring best practices in ML deployment, monitoring and optimisation.