


EMMA LUK

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https://github.com/emma-luk 

<https://emma-luk.github.io>  Guildford 

>> DATA SCIENTIST | WEB DEVELOPER

MOTIVATION *My passion lies in leveraging Data Science & Machine Learning to **solving business problems**. I strategically apply my skillset to **add tangible value** to businesses, and users alike. I am dedicated to continuous learning and enhancement. A seasoned Data Analytics professional with a Master's in Data Science and Analytics, specialising in machine learning, big data, and visual analytics technologies.*

SKILLS & TOOLS

Data Engineering: Proficient in Oracle APEX, JAVA, CPLEX Data Architecture, and Palantir Foundry for effective data processing and manipulation.

Software Design: Experienced in user experience (UX/UI) design, ensuring intuitive and efficient software interfaces.

Data Analysis: Skilled in working with a variety of data sources (MS, XML, APIs), performing thorough data analysis to drive informed decisions.

Data Science Tools: Familiarity with data science, data engineering, data management, and visualisation tools, enabling effective data-driven insights.

Defence Sector Expertise: Knowledge of the **Defence Sector** and **Royal Navy operations**, enhancing the ability to align data solutions with sector-specific requirements.

UK SC Clearance: Eligible to obtain UK SC clearance for confidential projects.

EXPERIENCE **Data Scientist - BAE Systems plc, His Majesty's Naval Base Portsmouth**
2021 – 2023

Achievements:

- Successfully implemented a **data pipeline** that reduced data processing time by 30%.
- Developed a **data cleansing algorithm** that improved data accuracy by 20%.
- Created **interactive dashboards** that enhanced **data visualisation** and improved **decision-making processes**.
- Received recognition for **outstanding contribution** to a complex **data migration project**, ensuring **smooth transition** and minimal downtime across Canadian/US and European markets.
- Led a **cross-functional** team in the successful delivery of a data-driven project, resulting in **cost savings** of \$100,000 for the client.
- Collaborated with cross-functional teams to support the evolution of the **Schedule Optimisation Engine (SOE)**.
- Employed **data engineering** and advanced analytics to construct predictive maintenance models and business cases, enhancing maintenance efficiency.
- Led continuous support of SOE.
- Aligned **data initiatives** with business needs by working closely with the **Royal Navy, Data Manager**, and **Insight Manager**.
- Identified avenues for integrating data and analytics into diverse processes and offerings.
- Conceptualised and executed data models, performed **data cleaning** and **transformation** and crafted interactive dashboards to elevate data visualisation.
- Gained recognition for contributions to **data migration projects** and **data-driven initiatives** that achieved significant **cost savings**.

Data Scientist - Massive Analytic Ltd, London
2020 – 2020

Achievements:

- Successfully developed and deployed an LSTM-based sequence prediction model, achieving a prediction accuracy of 95% and outperforming previous models by 15%.
- Led a team in designing and implementing a control unit for a self-driving car, resulting in a 20% reduction in accidents during testing.

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EXPERIENCE **Software Developer - Public Health England (PHE), Department of Health** 2016 – 2018

Achievements:

- Successfully designed, developed, and supported analytical systems, contributing to improved public health decision-making.
- Applied technical expertise in SQL Server, SSIS, and T-SQL to build and support data warehouses/marts.
- Influenced testing and implementation processes, leading to enhanced system performance and quality.
- Utilised data science and data visualisation techniques to improve the usability and accessibility of health-related data.

Experience Highlights 2001-2014:

Achievements:

- Executed Web Development and Design in finance, insurance, and automotive, emphasising E-commerce and Digital Product Development. Proficient in accelerating A/B Testing and Multivariate Testing strategies at AXA Wealth, Bristol, Mercedes-Benz, and Hargreaves Lansdown Stockbrokers & Asset Management.

EDUCATION **MSc (Data Science and Analytics)**

2018 - 2020 - Brunel University, London

Actionable Learnings:

- High Performance Computational Infrastructures in Java (Hadoop & NoSQL)
- Data Visualisation (dashboard and infographic design using Tableau & Microsoft Power BI).
- Big Data Analytics covers data mining alongside machine learning techniques (e.g. clustering, regression, support vector machines, boosting, decision trees and neural networks) etc
- Quantitative Data Analysis & Statistics with R

MSc - specialising in machine learning, big data and visual analytics technologies.

MSc (Computer Science)

2003 - 2006 - University of Bristol (The Top 28 Universities in the World, 2012)

COURSES & CERTS

DSI Data Science Professional Certification

2023 - PRESENT

Actionable Learnings: Extracting & manipulating data using SQL. Application of statistical concepts such as hypothesis tests for measuring the effect of AB Tests. Utilising Github for version control, and collaboration. Using Python for data analysis, manipulation & visualisation. Applying data preparation steps for ML including missing values, categorical variable encoding, outliers, feature scaling, feature selection & model validation. Applying Machine Learning algorithms for regression, classification, clustering, association rule learning, and causal impact analysis for measuring the impact of an event over time. Machine Learning pipelines to streamline the ML pre-processing & modelling phase. Deployment of a ML pipeline onto a live website using Streamlit. Using Tableau to create powerful Data Visualisations. Turning business problems into Data Science solutions.

Certified Scrum Master®

2017 (Credential ID: 000691196) Scrum Alliance,