**EMMA LUK**[emma\_luk2@hotmail.com](mailto:emma_luk2@hotmail.com?subject=Data%20Science%20Position) | +44 (0) 7974 522 805 | [www.linkedin.com/in/emma-luk](https://www.linkedin.com/in/emma-luk/)

<https://emma-luk.github.io> (Portfolio & GitHub) | [Web Development Showcase](https://emma-luk.github.io/docs/emma_luk_samples_of_web_development-work.pdf) | Guildford (Address)

**> > WEB DEVELOPMENT | DATA SCIENCE | MACHINE LEARNING**

**MOTIVATION**

Driven by a profound passion for leveraging Web development, Data Science and Machine Learning to address business challenges, the focus is on strategically applying a robust skillset to deliver tangible value to both businesses and users. Committed to continuous learning and enhancement, expertise is rooted in a seasoned background as a Data Analytics professional, holding a Master's in Data Science and Analytics with specializations in machine learning, big data, and visual analytics technologies, alongside a **Master's in Computer Science**.

**SKILLS & TOOLS**

* Programming: Python (Base, Pandas, NumPy, Matplotlib, Scikit-Learn, Keras), SQL, R, SAS
* Machine Learning: Linear Regression, Logistic Regression, Decision Trees, Random Forest, KNN, k-means, PCA, Association Rule Learning, Causal Impact Analysis
* Other: Statistics, GitHub, Data Visualisation, MS Office, Tableau, Jupyter Notebook, AWS, Google Cloud Platform.
* Proficient in Python, HTML 5, R, SQL, and NoSQL databases, SQL Server, SSIS, T-SQL
* Building/supporting data warehouses/marts
* Proficient in data visualisation techniques and tools such as Tableau, Power BI, and D3.js
* Database concepts (relational & non-relational)
* Software testing (unit testing, system testing, user acceptance test)
* Tools supporting development and version control processes (GIT, Jira, Azure DevOps)
* Communication skills
* Understanding of business processes
* Continuous learning and development
* Agile methodology
* Relational & non-relational databases
* Strong communication skills & Time management
* Experienced in using tools such as Jupyter, RStudio, Azure, AWS, and Jenkins for data analysis and processing
* Knowledge of automation tools like Power Automate, Selenium Testing
* Experienced in working with large and complex data sets, and performing statistical analysis and optimisation
* Excellent communication and presentation skills, with the ability to explain technical concepts to non-technical stakeholders
* Strong problem-solving and analytical skills, with the ability to identify and solve complex business problems

**EXPERIENCE Data Scientist (Contract) - BAE Systems plc, Portsmouth**

2021 – 2023

* Use a subset of data science techniques daily, such as machine learning (supervised, unsupervised, semi-supervised learning), data mining, prescriptive and predictive analytics to improve business capability.
* Appling designated quantitative techniques, statistics, time series analysis, Noise, Outliers, Fraud Detection using DBSCAN, optimisation, and simulation to deploy appropriate models for analysis and prediction.
* Supporting development of data analytics for organisational tasks, integrate data analytics and processing applications into workflow and business processes for agile decision making.
* Visualise and present data insights to the team and stakeholders using Tableau, Power BI, and other data visualisation tools.
* Analysing large and complex data sets to provide clear and insights for a range of business problems.
* Researching and assessing new data science techniques via literature reviews and engagement with system SMEs.
* Engaging with data science and analytics capabilities across BAE Systems business units.
* Presenting research and insights to stakeholders with different levels of technical understanding.

**Data Scientist (Contract) - Massive Analytic Ltd, London**

2020 – 2020

* Worked on developing Sequence Prediction Models using Deep Learning techniques like Long Short Term Memory Networks (LSTM) and Fuzzy Time Series.
* Built and developed control units for self-driving cars using unanimous data science and deep learning techniques.
* Created mock-ups and prototypes for client demonstrations.

Following a successful career as a Web Designer / Developer, I decided I wanted to help businesses turn raw data into intelligent data, so I studied for my MSc in Data Science and Analytics, completing in June 2020. The course specialises in machine learning, big data and visual analytics technologies.

**Software Developer (Contract) - Public Health England (PHE) Department of Health, Cambridge**

2016 – 2018

* <https://fingertips.phe.org.uk/profile/health-profiles> (Go to the data)
* Worked closely with the development team to design, develop and support analytical systems, including all phases of the software development lifecycle.
* Utilised technical skills in SQL Server, SSIS, T-SQL and the building/supporting of data warehouses/marts.
* Acted independently, made decisions, and applied analytical judgement in multiple work-streams.
* Influenced the testing and implementation of components and provided post-implementation support.
* Contributed to technical discussions, influenced ways of working, shared knowledge, and provided technical mentorship to other team members.
* Reviewed work and participated in colleague reviews.
* Took ownership of testing programs and correcting errors to maximize quality.
* Applied data science and data visualisation for ‘Fingertips’, a rich source of indicators across a range of health and data sources commonly used in Public Health Intelligence ([**Appendix**](https://emma-luk.github.io/docs/emma_luk_samples_of_web_development-work.pdf)) with the Government Digital Service (GDS) standards and guidelines.
* Responsible for using data visualisation **techniques** to increase the usability and accessibility of data.

**Web Developer** **(Contract) - SelectScience (awarded The Queen's Awards for Enterprise International Trade)**

2014 – 2015

* Collaborated with cross-functional teams to develop, test and maintain software applications.
* Utilised skills in C#, and Python programming languages to develop new features and functionalities.
* Worked on multiple projects concurrently, meeting deadlines, and quality standards.
* Conducted system analysis and proposed technical solutions to enhance the efficiency of the system.
* Participated in code reviews, identified and corrected errors.

**ASP.NET Developer (Contract) - NMR Information Partnerships Plc, Chippenham**

2013 – 2014

* Translating complex business requirements and “Data-driven business” into tangible technical solutions.

**User Experience Developer (Contract) - Hospitality Guest Experience Management (Microsoft Partners)**

2012– 2013

* Designed, developed, and implemented new websites, online feedback tools, and landing pages using ASP.NET web forms, MVC 4 technology, iOS, and Android. Collaborated with cross-functional teams to ensure the user interface and experience met the needs of the client and end-users.
* Conducted user research and testing to identify areas of improvement and make data-driven design decisions.

**Online Marketing Webmaster - AXA Wealth, Bristol**

2010 – 2012

* Conducted Machine Learning to accelerate A/B Testing and Multivariate Testing ([**Appendix**](https://emma-luk.github.io/docs/emma_luk_samples_of_web_development-work.pdf)) and helped develop algorithms to improve the accuracy of Recommendation Engines.
* This helped provide insight to drive future strategies and identify business opportunities, infer marketing insights, **forecast sales and problems,** and accounting standards and guidelines.

**Web Designer / Developer - Hargreaves Lansdown Stockbrokers & Asset Management Ltd (UK FTSE 100 Company)**

2004 – 2010

* Techniques have included event-based analytics, predictive modelling, Google Analytics, A/B testing, tracking the customer experience, correlation between financial keywords Internet search and stock market fluctuations, time-series analysis, and attribution strategy development using Waterfall and Agile processes

**Web Designer / Developer - V-ten Limited (a subsidiary of DaimlerChrysler UK), Bristol**

2001 – 2004

* Designed and managed the Mercedes-Benz and Smart websites ([**Appendix**](https://emma-luk.github.io/docs/emma_luk_samples_of_web_development-work.pdf)), running projects up to the value of £4 million per year, E-commerce disciplines, a Configurator System, Content Management System and database implementation, and accounting standards and guidelines.

**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. Experienced at programming in Python with Jupyter Notebook, Hadoop, Spark, R with RStudio, NoSQL, Java and Unix systems.

**MSc (Computer Science)**

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

**Actionable Learnings:**

* Software Engineering with Project Management & Testing, Programming in C with Dynamic Data Structures,
* Object Oriented Programming with Java, Databases with Oracle SQL, Design Methodology with UML, Extreme Programming & SSADM, and Computer Architecture. Individual Project: Web Based Mercedes-Benz Car Marketing using a Content Management System (CMS) and DaimlerChrysler Configurator in C#.

**COURSES & Certified Scrum Master®**

**CERTS** 2017 (Credential ID: 000691196) Scrum Alliance