Dr Rhys Wells, PhD.

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Personal Profile

A Data Scientist with a strong analytical and numerical background built during an Mathematics PhD, along with experience working within a team to leverage Natural Language Processing, LLMs and RAG to streamline machine learning workflows. Results-oriented, adaptable, with a particular focus on problem solving and translating complicated concepts to technical and non-technical stakeholders.

Qualifications

PhD in Mathematics (University of Liverpool)   2019 – 2023

Conducted independent research in the field of Algebraic Geometry.

M.Sci in Mathematics (University of Glasgow)   2014 – 2019

Attained a First Class award, and completed advanced courses including Differential Equations and Numerical Methods.

Work experience

Data Scientist at Science to Data Science (Remote)   February – March 2024

Collaborated with CGG, a geoscience technology services company, to develop an application leveraging Natural Language Processing (NLP), Generative AI, and Large Language Models (LLMs). This initiative aimed to streamline the workflow of CGG's machine learning and data science teams, resulting in a 50% increase in workflow output.

Key Achievements:

- Built commercial awareness on the importance of LLMs, emphasising initiative in driving project discussions and decision-making in client interactions. Tailored reporting to highlight business impact.
- Managed client expectations by understanding business drivers and project constraints, ensuring successful project outcomes.
- Collaborated with team members using Git for group coding, focusing on code maintainability and future-proofing.

PhD Researcher   2019 – 2023

Seized opportunities to enhance my learning while actively contributing to the scientific community.

Key Achievements:
- Developed and implemented novel computational algorithms through iterative experimentation to achieve novel results.
- Led a collaborative research project with the University of Washington, focusing on the development of new mathematical techniques and data analysis derived from applications of code base developed during the PhD. Provided mentoring and reported findings to stakeholders.
- Presented research work at mathematics conferences held at Cambridge and Queen Mary London Universities, demonstrating initiative and effective project prioritisation.
- Completed a crash course in deep learning gaining a deeper understanding of neural network implementation in commercial settings.

Graduate Assistant (University of Liverpool)   2019 – 2023

Contributed to the delivery of core courses in Statistics and modelling sessions in R, fostering student understanding and proficiency in statistical analysis.

Key Achievements:

- Demonstrated adaptability to new technical domains by quickly mastering new tools and methodologies, ensuring effective delivery of course content.
- Successfully mentored students towards improved statistical implementation strategies, resulting in enhanced academic performance and comprehension.

Content Creator (University of Glasgow)   June – August 2019

Led a dynamic team in the creation of mathematics course materials, ensuring quality, accuracy, and relevance to academic standards.

Key Achievements:

- Established an environment of open communication and collaboration within the team, fostering creativity and idea sharing.
- Implemented agile methodologies in meeting structures and agendas, resulting in improved project efficiency and timely completion of deliverables.

Ongoing projects

- Leading a charitable initiative in collaboration with the Loch Lomond rescue boat team, aimed at enhancing operational efficiency, incident location prediction, and social media impact.
- Participating in a collaborative project centred on a Kaggle competition aimed at constructing precise 3D maps from diverse sets of images. The objective is to develop a model capable of generating accurate spatial representations.

Interpersonal attributes

Demonstrated leadership in various academic and commercial projects, fostering collaboration and ensuring team cohesion. Proficient in effectively reporting to stakeholders, as evidenced by conference presentations and engagements.

- Driven
- Resourcefulness
- Openness to growth
- Curious
- Self-sufficient
- Adaptable

Technical attributes

Proficient in designing and executing experiments, conducting model selection, and evaluating suitability for deployment. Skilled in statistical treatment and cleaning of large datasets to extract meaningful insights. Experienced in a wide range of machine learning applications, including regression, classification, clustering techniques, dimensionality reduction, and data visualisation.

- Latex
- Git
- Python
- R
- Scikit,
- Pandas, NumPy

Interests and hobbies

Passionate about endurance activities. I have participated in the Paris Marathon and have embarked on cycling expeditions, including a memorable journey from Glasgow to Paris. Currently, I am dedicated to training for an Ironman triathlon.