Dr Rhys Wells, PhD.

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Personal Profile

Dedicated and results-oriented data scientist with a background in Mathematics and a proven track record of delivering innovative solutions. Self-motivated and pragmatic with a collaborative open mindset. Proficient in abstracting key system components and developing insightful models. Thrives in dynamic environments where collaboration and initiative are valued.

• Motivated	• Open to growth	• Self-sufficient
• Resourceful	• Curious	• Adaptable

Technical attributes

Proficient in designing and executing experiments, conducting model selection, and evaluating suitability for deployment. Experienced in a range of machine learning and data analysis applications including regression, classification, clustering techniques, dimensionality reduction, and data visualisation.

• Latex	• Python	• SQL
• Git	• R	• PowerBI

Work Experience

Data Analyst at Loch Lomond Rescue Boat   **March – May 2024**

Led a comprehensive data analysis initiative on preparedness, prediction, and social media impact to optimise operational effectiveness and strategic decision-making. Delivered a detailed report to the board highlighting insights, actionable recommendations and fostering discussions.

- Implemented data cleaning methods ensuring dataset reliability.
- Built an interactive map using Folium showcasing incident's locations and details.

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

Collaborated with CGG, a geoscience technology services company, to develop a commercial application leveraging Natural Language Processing (NLP), Generative AI, and Large Language Models (LLMs). This initiative streamlined the workflow of CGG's machine learning and data science teams, saving an average of 10 hour per week for team members.

- Managed client expectations by understanding business drivers and project constraints, ensuring project outcomes.
- Collaborated with team members using Git, focusing on code maintainability, and futureproofing.
- Utilised LangChain to access LLM via an API, Click for building the command line interface, Pytest for unit tests, and Pylama and Radon for model evaluation.

PhD Researcher   **2019 – 2023**

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

- 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.
- Presented research at conferences held at Cambridge (COMB in CAMB), Queen Mary London Universities (MaTroCom), Paris-Saclay University (Gael), and ATOM a summer school on Moduli spaces.
- Completed a crash course in deep learning, gaining a solid understanding of neural networks in commercial settings, including Stochastic Gradient Descent, backpropagation, and working with Keras to implement regression and classification models.
- Active participant of Liverpool Hodge theory seminar group and the Liverpool Virtual Seminar Series on Data Intensive Science.
- Attended personal and professional development workshops focusing on:
    - **People**: Understanding cognitive and emotional thinking, influencing without authority, and different types of power influencing strategies.
    - **Project Management**: Managing expectations, communicating ideas, scoping projects, understanding the relationship between scope, cost, and time, project phases, stakeholder dynamics, facilitation of effective work, and addressing main project challenges.

Graduate and Outreach Assistant (University of Liverpool)   **2019 – 2023**

Contributed to the delivery of core courses in Statistics and modelling sessions in R, mentoring and fostering student understanding and proficiency in statistical implementation strategies. Assisted with outreach activities as part of the Outreach team.

- Adapted to technical domains by mastering new tools and methodologies, ensuring delivery of course content.
- Delivered an outreach presentation to sixth form students, engaging them in advanced mathematical concepts.
- Contributed to weekly problem-solving sessions (in person and online) for sixth form students under the Advanced Mathematics Support Programme (AMSP).

Qualifications

PhD in Mathematics (University of Liverpool)   **2019 – 2023**

Conducted independent research in algebraic geometry, utilising software engineering techniques to perform quantitative analysis to compute combinatorial structures associated to fine compactified Jacobians.

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

Attained a First-Class award and completed advanced courses in Differential Equations and Numerical Methods.

Interests and Hobbies

Currently dedicated towards training for an Ironman triathlon.

Organiser of a monthly amateur investing seminar ([AIS](#)) where we discuss financial education.