Patrick Parkinson

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PROFILE

PGR at Newcastle University with a solid research background in Mathematical Biology and industry experience in Healthcare Analytics. I am interested in further developing my mathematical modelling and career experience in a public health research role during my PhD.

EDUCATION

Applied Mathematics PhD, Newcastle University (2023 – Present):
- UKRI funded research titled 'Optimising stem cell therapies for corneal damage: insights from multiscale mathematical modelling'.
- Supervisors: Dr Laura Wadkin and Professor Anvar Shukurov, Department of Mathematics, Statistics and Physics, Newcastle University.
- Working in a multi-disciplinary team which includes leading consultant ophthalmologist Professor Francisco Figueiredo, and expert stem cell scientist, Professor Majlinda Lako.
- Though sophisticated image analysis techniques, we aim to identify resilient indicators of corneal epithelial health, and success of transplant intervention, before ultimately developing an all-encompassing software package, to be of use to ophthalmologists for the diagnosis and monitoring of treatment of LSCD patients.

MMath Mathematics with Placement, Newcastle University (2018 – 2023):
- Awarded with First Class Honours in June 2023.
- Completed a placement year as a Junior Information Analyst with Northumbria Healthcare NHS Foundation Trust.
- Achieved 70+% in all examinations and have met all weekly deadlines.
- Developed the strong communication and team-working skills demanded by a problem-solving environment as a result of regular group work. In Stage 2 randomly assigned to a group of 4 students to undertake a project on Chaos Theory. Acted as group lead, setting research direction, and communicating with the tutor on behalf of the group to meet the deadline. Achieved a 1st in the module through the production of informative simulations in MATLAB and a comprehensive report written in LaTeX.
- Completed an independent project to conduct research into Self-Organised Criticality in simple mathematical models, using predominantly computational methods within R and Python. Achieved a 1st in the module after exhibiting strong academic writing and communication skills, with assessment in the form of dissertation, presentation, and poster production.
- Relevant modules include Computing for Mathematics and Statistics, Mathematical Biology, Problem Solving and Big Data Analytics.

September 2011 to June 2018: **McAuley Catholic High School, Doncaster**
- **A-Levels:** A*, A*, A* (Mathematics, Further Mathematics, Chemistry)
- **13 GCSEs:** Grades A* - A
- High performer with core skills in mathematics and problem-solving. Placed in an extra-curricular class focused primarily on problem-solving in teams. This led to taking part in regional and national competitions, having to complete tasks under time pressure, working both alone and in teams.

WORK EXPERIENCE

September 2021 – July 2023: Junior Information Analyst, Northumbria Healthcare NHS Foundation Trust
- Began placement within the analytics team, supporting the production of a multitude of reports for individuals and departments throughout the Trust.

- Developed an understanding of the process of turning data into information to assist operational teams, managers, senior executives, and external bodies using software including SSRS, SPSS and PowerBI.
- Subsequent 4 months spent within the Integration Team ensuring the upkeep of the Trust's Data Warehouses within SSMS. Additionally worked on the development and testing of interfaces between clinical systems and the development of several Data Quality processes within the department.
- Assigned to a major trust project, attending SCRUM style meetings with project managers and clinical staff, representing the department to ensure the unit built was fit for reporting.
- Final 4 months of placement remained within the integration team developing robots to automate manual processes within the department. Also curated a training package to enable the department to retain these skills following the placement coming to an end.
- Collaborated with another team-member to develop a number of robots, and the processes that surround running them, to support the work of others both within the department and externally. The most successful project being on the complete automation of an ED coding process for one of the hospitals which has increased coding efficiency by 36%, enabling the Trust to meet coding deadlines and reduce overtime.
- Having had no experience with automation, am now proficient in the use of UiPath and OpenRPA to automate any number of manual processes.

May 2020 – July 2021: Customer Assistant/Online Assistant, Sainsbury's, Newcastle upon Tyne
- Provided excellent customer service. The role required the ability to multi-task to balance conflicting demands in a high-pressured, customer-focused environment.
- Previous role as online assistant entailed carrying out a number of tasks involved in compiling online orders for customers efficiently and accurately during a period of unprecedented workload due to the effect COVID-19 has had on supermarkets.

July 2017/2018/2019: Volunteer Helper, Hallam Dioceses, Lourdes
- Part of a team that annually took a large group of sick and elderly people to Lourdes, France. This called-for a high level of concentration, remaining constantly alert to a multitude of unexpected problems that occurred throughout the trip.
- Demonstrated ability to resolve a number of these issues by utilising improvisation and analytical skills. As a result, trusted to act in a leadership role throughout the trip.
- Provided excellent care to the pilgrims remaining friendly, energetic, and communicative throughout.

ADDITIONAL SKILLS

- Proficient in MatLAB, R, Python, LaTeX, SQL, SSRS, PowerBI, VBA, OpenRPA, UiPath.
- Full clean driving licence
- Languages – Basic French. Currently enrolled in the University Wide Language Programme to develop my language skills through group work and formal assessment.

INTERESTS
- Member of both MCB & ESMTB.
- Avid rock climber within Newcastle University's Climbing Society. Had the opportunity to head out on expeditions, including to the Peak District where I lead a group of climbers, new to the outdoors, on a day trip.