Artur Miralles Méharon

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Summary

I am a hard-working and motivated applied mathematics student with a strong and consistent academic record. I have received multiple awards for academic excellence throughout my studies. I have a range of experiences working individually and in group-based settings, making me extremely comfortable and effective in both independent and collaborative work. Throughout my degrees, I have gained strong problem-solving, analytical and computational skills. I can program confidently in Python, and have good working knowledge of Mathematica, MATLAB and Julia. I have experience in data analysis, allowing me to feel comfortable using Excel and handling and interpreting complex data sets. I am driven by my curiosity, so the prospect of working in a research environment greatly excites me. I am enthusiastic to gain knowledge and experience in the field of biomedical sciences, with a particular drive towards the applications of artificial intelligence. Gaining insight into this field, in both an academic and industrial setting, is an immensely exciting prospect.

Education

BSc (Hons) University of Aberdeen, Applied Mathematics — Sept. 2019 to June 2023

- *First Class Honours*. GPA: 20.97/22.00. (link to transcript)
- **Selection of courses taken:** Computational Methods in Physics, Financial Mathematics, Modelling Theory, Nonlinear Dynamics and Chaos Theory I, Nonlinear Dynamics and Chaos Theory II, Analysis III, Analysis IV, Consciousness, Differential Equations, Geometry, Group Theory, Metric and Topological Spaces, Optimisation Theory, Probability, Complex Analysis.

MSc University of Edinburgh, Computational Applied Mathematics — Sept. 2023 to Aug. 2024

- **Courses taken:** Applied Dynamical Systems, Fundamentals of Optimization, Industrial Mathematics, Large Scale Optimization for Data Science, Machine Learning in Python, Mathematics in Action A, Numerical Linear Algebra, Numerical Partial Differential Equations, Python Programming, Research Skills for Computational Applied Mathematics, Statistical Methodology.

Academic Awards

Albert Johnstone Prize for Mathematics: Most distinguished candidate in the examination for Honours in Mathematics. Awarded by University of Aberdeen (May 2023).

Level 3 Prize in Mathematics: For excellence in Level 3 Mathematics. Awarded by University of Aberdeen (May 2022).

Maclaurin Prize: Best Level 2 student in Mathematics. Awarded by University of Aberdeen (May 2021).

Brimmell's Prize in Mathematics: First prize in the Level 1 course in Mathematics. Awarded by University of Aberdeen (May 2020).

Experience

AIESEC UK, Data Analyst for Talent Management (Entity Support Team) — Remote, Aug. 2023 to Jan. 2024, 6 months

- Collected data from membership databases and feedback surveys.
- Interpreted data results and created reports and visualisations to present important insights to stakeholders.
- Developed and maintained dashboards.
- Provided recommendations based on analyses to support strategic decisions.

AIESEC UK, Member of Marketing and Outgoing Global Exchange — Aberdeen, Scotland
Feb. 2023 to Aug. 2023
7 months

- Raised awareness about international exchange opportunities among students and graduates.
- Reviewed applications and conducted interviews to select potential candidates.
- Participated in team meetings and contributed to strategic planning in marketing.
- Created and implemented marketing campaigns communicating AIESEC's values and opportunities to the target audience.

Projects

Honours Project: *Exoplanet Detection Techniques and Life in the Universe* — Sep. 2022 to Apr. 2023

- Investigated the history and current and future state of exoplanet research, with an emphasis on the most popular exoplanet detection techniques.
- Explored how life in the universe is being sought after and the relevant discussions around it.

Modelling Theory Project: *Battle Dynamics* — Jan. 2023 to Apr. 2023

- Designed a simulation model to recreate the Battle of Aljubarrota, incorporating details such as individual soldier health, unit type and strategy.
- Integrated factors into the model such as the influence of individual soldier skills on combat effectiveness, terrain adjustments and the impact of battle progress on troop morale.
- Implemented in Mathematica.

Industrial Mathematics Project: *Forest Fires* — Nov. 2023 to Dec. 2023

- Developed a Cellular Automata model to simulate forest fire dynamics, incorporating ecosystem characteristics.
- Conducted simulations to evaluate fire breakout patterns and spread, exploring various scenarios and mitigation strategies.
- Implemented in Python.

Research Skills Project: *Turbulent Transport of Reproducing Organisms* — Feb. 2024 to Apr. 2024

- Conducted research on the clustering of organisms, such as plankton, in turbulent fluids, focusing on the impact of reproduction and chaotic advection on clustering dynamics.
- Employed multi-particle statistical methods to analyse correlations between organism movements and quantify clustering.
- Implemented in Python.

Hobbies and Interests

- **Music** - I enjoy listening to a wide variety of genres. I play the acoustic guitar and I used to play the bass in a band back in Spain.
- **Fencing** - I have been a member of fencing societies for the last few years. I enjoy the combination of physical and mental dexterity that the sport requires.
- **Reading** - I often read classic fiction and historical novels. Some of my favourite books are *Demian* by Hermann Hesse, *Norwegian Wood* by Haruki Murakami and *The House of the Spirits* by Isabel Allende.