

Michael Belyaev

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Mathematics student looking for an internship combining mathematics and computer science.

EDUCATION

University of Edinburgh Sep. 2022 - Jun. 2027
Mathematics MMath (Integrated Masters) Averaging a first (85%)

Relevant Coursework: Statistics, Probability, Introduction to Algorithms and Data Structures, Foundations of Data Science, Stochastic Modeling, Machine Learning

Balerno High School Aug. 2016 - June 2022
Advanced Highers: Mathematics (A), Mathematics of Mechanics (A*), Physics (A), Computing Science (A)*

PROGRAMMING SKILLS

- **Programming Languages:** Python; Exposure to R, Rust, Haskell, C++
- **Libraries and Tools:** Git, NumPy, Pandas, Matplotlib, Scikit-learn

EXPERIENCE

School of Informatics Research Internship Jun. 2024 - Aug. 2024
University of Edinburgh

- Researched techniques on dimensionality reduction for k-NN search and coded implementation in Python.
- Delivered weekly presentations on my progress.
- Studied applications of spectral graph theory in clustering.

Demonstrator/Marker/Tutor Sep. 2023 - Nov. 2024
University of Edinburgh

- Tutored Introduction to Computation and Introduction to Data Structures and Algorithms.
- Conducted weekly live tutorials and provided academic support to a group of 8 students.
- Assessed and provided feedback on assignments.

PROJECTS

HYPED Software Team Sep. 2023 - Present
University of Edinburgh Hyperloop Team

- **Localisation Subteam Member** — Sep. 2023 - Jan. 2024
- **Localisation Project Manager** — Jan. 2024 - Present
- Leading a team responsible for estimating the displacement, velocity, and acceleration of the pod.
- Implemented sensor fusion using the Kalman Filter algorithm, achieving $\pm 1\%$ accuracy.
- Rewrote the implementation in Rust for improved performance and efficiency.

Cancellation of Planned Operations in the Scottish NHS

- Analyzed cancellation patterns in Scotland's healthcare system using Python (Pandas, NumPy, Matplotlib, Seaborn).
- Applied statistical techniques including linear regression and two-sample t-tests to evaluate trends.
- Visualized findings to identify regional trends, and completed a detailed report.

AWARDS AND ACHIEVEMENTS

- Scottish Mathematical Challenge Gold in S5 and Silver in S6.
- Gold in the Senior UKMT - top 7% of participants.