ALEXANDER MEAD

PhD

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🌐 Website
GitHub
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Relocated from the UK to Vancouver in January 2022. British citizen with Canadian permanent residency.

SKILLS

- Python (numpy; scipy; pandas; scikit-learn); C; Fortran; html
- Machine learning
- Software development
- Statistical analysis/modelling
- Supercomputing
- Fourier techniques
- Numerical equation solving
- macOS, Linux, bash
- Data visualisation (matplotlib; seaborn; gnuplot; VisIt)
- Communication skills
- Scientific communication
- Creative and resourceful
- Native English speaker

EDUCATION

2010–2014: University of Edinburgh
PhD, Astrophysics

2005–2010: University of Oxford
MPhys (Master of Physics), First Class, Trinity College Scholar

AWARDS

- **2016:** Marie Curie Fellowship awarded €220k research budget
- **2015:** CITA National Fellowship
- **2010:** STFC PhD scholarship
- **2010:** Peter Fisher prize, top results at Trinity College, Oxford

An experienced Data Scientist specialised in research in astrophysics and cosmology. Looking for a position in which I can continue to grow. Proven track record of expertise with statistical analysis, machine learning, predictive modelling, software development, data visualisation, and project management. Up-to-date programming and technical skills and able to learn new skills, techniques, and languages very quickly. Strong communication skills for both scientific and non-scientific audiences. Creative, driven, and self reliant.

EXPERIENCE

Aug 2021–Sep 2021: Science to Data Science (S2DS) Fellow
Worked with a team of data scientists and Thymia to implement a multi-modal (speech/gameplay data) machine-learning assessment of mental health based on user interactions with a specially-designed app. Wrote first pipeline from scratch to process raw app data. Led sub-team to write software to calculate user-game-interaction metrics and identified pertinent correlations between playing style and mental health. Isolated deficiencies in the data-collection process and identified in-app redundancies that will make product 75% cheaper to operate in future.

Nov 2020–Jul 2021: University of Edinburgh; GLOBE Fellow
Halo-model software development; undergraduate teaching; review article writing. Demonstrated that carefully calibrated analytical models can replace computationally-expensive simulations, resulting in factor ~1000 saving in computation time.

Sep 2017–Oct 2020: University of British Columbia and University of Barcelona; Marie Curie Fellow
Supervised undergraduate and graduate research projects and developed 'response' theory for cosmological estimators.

Nov 2015–Aug 2017: University of British Columbia; Canadian Institute of Theoretical Astrophysics (CITA) Fellow
Wrote and deployed HMcode software to speed-up calculation time for non-linear spectrum by factor of one million. HMcode is now the de-facto standard for all cosmological model estimation.

Mar 2014–Oct 2015: University of Edinburgh; Researcher
Supervised undergraduate student projects; coordinated, developed and delivered public-outreach program. Published papers on optimal cosmological-simulation rescaling solutions.

OTHER INTERESTS

- Enthusiastic skier with total lack of finesse.
- Surfer traumatised by a lifetime of cold waves and water.
- Indoor-wall climber with atrocious technique.
- Ultimately clichéd landscape photographer.
- Lethargic hiker with short legs.