Curriculum Vitae - Connor Watson

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School of Engineering: Aerodynamics and Flight Mechanics,
Boldrewood Innovation Campus, Burgess Road, Southampton, SO16 7QF.

Research Experience

MMath Student, Department of Mathematics and Statistics, University of Exeter, EX4 4PY (2018 - 2022)

- Investigation of coastal shipping air pollution attributable human health effects (BSc thesis)
- Derivation of governing equations of the classical water-wave problem mapped to curvilinear co-ordinates (MMath thesis)

Postgraduate Researcher, Aerodynamics and Flight Mechanics Research Group, University of Southampton, SO16 7QF (2023 - Present)

- Evaluation of correlations between air quality and thermal comfort, and utilisation of single-shot and auto-regressive LSTM machine learning in prediction of air quality
- Examination of how machine learning informed by governing equations of fluids be used to improve and optimise low carbon comfort of building design systems (PhD thesis - ongoing)

Research Skills and Interests

- Fluid dynamics theory, including ocean and climate behaviour and theory of numerical modelling methods
- Building physics and human thermal comfort, including climate control systems, thermal transfer, human behaviour, building envelope structure, and running and embodied energy and carbon cost
- Air quality, including human health effects, behaviour of pollutants, measuring air quality by creating and understanding a large variety of sensors, processing of data, and adverse air quality and climate warming mitigation methods
- Artificial intelligence, primarily physics informed machine learning using Python and it's climate impact
- Ethics, morality, and philosophy of all the above, primarily the ethics of AI and it's appropriate incorporation with economic systems, and the integration of the study of air quality and pollution into the mainstream political landscape

Additional Skills and Qualifications

- Utilisation of academic and industry standard programs: Python, R, MatLab, Bash, Visual Basic, LaTeX, Github, Microsoft Office programs and alternatives, Blender, and Adobe Photoshop and Lightroom
- Usage of high performance computing servers, namely University of Southampton's *Iridis*
- Long hobbyist experience with tools and handiwork, primarily computer building, metalwork, carpentry, and electronics
- Driving License
- NICAS 1-4: a set of teamwork based junior climbing qualifications

Education and Academic Qualifications

- Callington Primary School: September 2003 to July 2011
- Callington Community College: September 2011 to July 2016
- Plymouth High School: September 2016 to June 2018
  - A-Level Mathematics — A — Awarded 06/2018
  - A-Level Further Mathematics — C — Awarded 06/2018
  - A-Level Physics — C — Awarded 06/2018
  - AS-Level Mathematics — A — Awarded 06/2017
  - AS-Level Further Mathematics — B — Awarded 06/2017
- Exeter University: September 2018 to June 2022
  - Masters of Mathematics with Honours in Mathematics — 2:1 — Awarded 06/2022
- Southampton University: July 2023 to Present

Employment History

- The Barn Climbing Centre Ltd Year 10 Work Placement 06/2015 and Ad Hoc Basis till 09/2018: Eastacott Barton, Milton Abbot, Tavistock, Devon, PL19 0QP
- YMCA Plymouth Leisure Assistant 02/2018 - 09/2018: Callington Community College, Launceston Road, Callington, Cornwall, PL11 2NH
- University of Exeter Year 13 06/2018 Work Placement: Hope Hall, Prince of Wales Road, Exeter, Devon, EX4 4SB
- St. Mellion Membership Bookkeeper 07/2019 - 09/2019: St. Mellion Estate, PL126SD
- Tesco Stores Ltd Grocery Customer Assistant 03/2020 - 06/2020 and 05/2021 - 10/2022: Tavistock Rd, Callington, PL17 7RD
- Southampton University Postgraduate Researcher 07/2023 - Present: Boldrewood Innovation Campus, Southampton, SO16 7QF

References

- Hamid Alemi Ardakani, h.alemi-ardakani@exeter.ac.uk, Academic Reference: Streatham Campus, Exeter, EX4 4PY
- Christina Vanderwel, c.m.vanderwel@soton.ac.uk, Academic Reference: Boldrewood Innovation Campus, Southampton, SO16 7QF

Personal Profile - Who am I?

During my education and work experiences I have learnt responsibility, and how to work with others in group projects and how important it is to allow people to be able to talk and have their say. I work in an organised manner, always like to get my work done in plenty of time not leave anything to the last minute, and am keen to continue building on this mentality. I would be happy learning new skills at the same time as gaining hands-on experience.

For most of my life I have been and still am very interested in technology and mathematics. During university I actively sought to learn about modelling the climate and atmosphere, with most of my studies being complemented by practical experience in coding. Not only am I passionate about the mathematics behind ocean and climate modelling, but also am vehement in looking to impact the world in a wider way with my skills to contribute to something greater, with the best way to do that being through collaboration to get the most robust understanding possible. I love nothing more than to talk about what matters most to me, and because of this, I tend to interpret and talk about problems in plain English for clarity among all involved.

My other interests include rock climbing and fitness, of which I have been doing for most of my life. Having a clear mind is beneficial, and both of these aid in release of stress and tension. I can credit physical activity such as this to be the main source of my efficient and simple work attitude. I also enjoy having creative outlets, in photography, drawing, and story writing. Over university I used these to create an entire table-top game which is still available and continuously updated now, over 4 years after it's creation.