



SOPHIA NATASHA WILSON

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ABOUT ME

I combine my passion for machine learning and environmental sustainability to reduce the carbon footprint of deep learning. My work focuses on developing physics-informed machine learning models to achieve this.

PERSONAL LIFE

- I come from an international family, with grandparents from four different countries, and I hold dual citizenship in Denmark and New Zealand.
- I am passionate about travel and have already visited more than 35 countries.
- I enjoy running, swimming, and biking, and have recently taken up tennis.
- I have been highly involved in the social and academic life of my studies, organizing the annual Science ski trip (2022, 2023), leading the gala committee (2021, 2022), tutoring bachelor and masters students (2020, 2024), and founding the physics running club (2020). I have also been an active member of Women in Physics (2021, 2022) and have been involved in student politics (2019, 2020).
- I competed in cheerleading for eight years, reaching the European and World Championships with my club team and representing Denmark on the national team in 2015 and 2017.

EXPERIENCE

Teacher | [Falkonergårdens Gymnasium](#) | Feb 2025 – May 2025

Teach advanced mathematics 2–3 times weekly and deliver presentations on studying physics at UCPH.

Junior Consultant | [PA Consulting](#) | Sep 2023 – Feb 2025

Worked on three client projects, developing skills in project management, interviewing, presenting, and networking. Gained international experience at PA's Dutch office during an academic exchange.

Research Assistant | [Cosmic Dawn Center](#) | Sep 2022 – Jun 2023

Led an independent study on metals and dust in early galaxies, resulting in a first-author publication in *Astronomy & Astrophysics** (May 2023). Co-authored three papers on early star formation and galactic composition. Strengthened skills in research, data analysis, and scientific writing.

Teaching Assistant | [Niels Bohr Institute](#) | Sep 2020 – Jun 2022

Facilitated exercises for Mathematics for Physicists 1 and 2 (2022 and 2023), and lab sessions in Mechanics and Special Relativity (2020 and 2021). Strengthened my teaching skills and abilities to adapt to diverse learning styles.

EDUCATION

MSc in Computational Physics | [Niels Bohr Institute](#) | Feb 2023 –

Specializing in machine learning, applied statistics and programming.
Provisionally GPA: 12.0.

- Thesis: Quantifying the Reduction in Carbon Footprint of Physics-Informed Machine Learning supervised by Raghavendra Selvan (Sustainable ML, Computer Science Department, UCPH) and Jens Hesselbjerg (PICE, NBI, UCPH).
- Exchange: Five courses in machine learning and astrophysics at the Institute of Physics at the University of Amsterdam (spring 2024).
- Talks: MSc Student Symposium 2025 (UCPH); Climate Action Day at SODAS (UCPH).
- Conferences: Hamlet-Physics 2024 Conference (UCPH); and AI Structured Learning 2024 Workshop (Chalmers AI research centre).

BSc in Physics | [Niels Bohr Institute](#) | Sep 2019 – Feb 2023

Focused on computational physics, astrophysics, and cosmology. GPA: 11.0.

- Thesis: Measuring Cosmological Parameters with Fast Radio Bursts. Grade: 12.
- Publications: Co-authored a paper based on my first-year project on spectroscopic classification of quasar candidates.
- Summer schools: One-week astrophysics and machine learning hackathon with 15 global participants (Astromatic Summer School at University of Montreal, Aug 2022); 3-week course in remote observing including spectroscopy and imaging using the NOT telescope (Nordic Optical Telescope Summer School at Las Palmas, Aug 2021).
- Conferences: The Annual Danish Astronomy Meeting 2023 (Instrument Center for Danish Astrophysics).