

OWEN J. THOMAS

owenjthomas7@gmail.com ◇ 07808277569 ◇ [Portfolio Website](#)

PROFILE

Enthusiastic MSc Theoretical Physics student at Kings College, London. I am a highly competent self-directed learner, and through my experiences I have honed strong practical skills - a result of thorough exposure to scientific problems through professional experience and independently led ventures. My programming skills were developed in this way through my research internship, and I extended these skills into data science and machine learning by creating independent projects, seen on my portfolio website linked [here](#) and at the top right of this page.

EDUCATION

Kings College London

Present - 2026

Master of Science - MSc, Theoretical Physics (Part-time)

University of Exeter

2021 - 2024

Bachelor of Science - BSc (Hons), Physics

TECHNICAL SKILLS

Programming

- Python: Pandas, NumPy, Matplotlib for data analysis, DEDALUS for numerical simulation, hardware control/ automation.
- Machine Learning: TensorFlow for deep learning, scikit-learn for classical ML, experience independently building CNNs/ PINNs.
- Version control: Using Git through the command line.
- Web Development: static webpage design with HTML/ CSS (ojthomas7.github.io)

Scientific Analysis

- Working with numerical simulations for solving PDEs (Fluid dynamics dissertation project, 78 % 1st class).
- Theoretical and practical skill-set within fluid dynamics, working with Navier-Stokes/ mass conservation equations (Fluid dynamics exam, 76 % 1st class).
- Experience designing and conducting experiments, drawing meaningful conclusions.
- Strong mathematical and statistical skills, including advanced calculus, differential equations, and linear algebra.

PROFESSIONAL EXPERIENCE

Software Development Research Intern

June - July 2024

University of Exeter - Centre for Metamaterial Research and Innovation (CMRI)

Exeter, Devon

I held the position of a research intern under Dr. Calum Williams with the CMRI at the University of Exeter. My objective was to create a python program for hardware automation by communicating with each hardware components SDK, creating a hypercube of spectral data. The final work culminated in a singular python file with a GUI that allowed researchers to automate and conduct their experiments remotely.

AI Development and Training

Outlier AI - Mathematics Consulting

Remote

I work part time as a model evaluator for Outlier AI, specifically working on the reinforcement of an LLM's mathematical capability. This includes inventing unique and original mathematical prompts that are sufficiently complex to stump the model, and then correcting the model so that it may go on to improve its reasoning ability within mathematics.

Dear Recruitment team at SLB,

I am writing to express my strong interest in the Data Science Intern position with your Numerical Simulation team at Abingdon. As an MSc Theoretical Physics student at Kings College London with experience in physics-informed machine learning and fluid dynamics, I am particularly excited about your project applying ML techniques to optimize CO₂ injection for carbon capture and storage.

My academic and practical experience aligns closely with your project requirements. The final dissertation project of my Physics degree at the University of Exeter focused on the simulation of convection within the interior of main-sequence stars, where I implemented numerical methods to solve PDEs, receiving a first-class grade of 78%. In a separate fluid dynamics module, I studied the Navier-Stokes and mass continuity equations, learning to manipulate and apply them to extract meaningful system behavior and derive analytical solutions to complex flow systems, again achieving a first class grade.

My programming expertise includes extensive work with Python, specifically using TensorFlow for deep learning applications and developing neural network architectures. During my research internship at the University of Exeter's Centre for Metamaterial Research and Innovation, I demonstrated my ability to work independently in a professional environment, successfully developing a Python program for hardware automation that created hypercubes of spectral data. This showed my capacity to handle complex tasks by systematically decomposing them into manageable stages, from hardware integration to data collection and analysis, and implement practical solutions for research applications.

Independently, I have taken my programming skills further by creating self-directed projects investigating data science and machine learning. Most recently this included attempting to create a PINN that is capable of classifying the quantum states (n, l, m) of an image of the electron density about the hydrogen nucleus. This project, and similar, may be viewed on my portfolio website (<https://ojthomas7.github.io>) which also contains links to my github profile.

I am particularly drawn to this position because it combines cutting-edge machine learning techniques with meaningful environmental impact through carbon capture and storage optimization. The opportunity to contribute to SLB's mission of driving energy innovation for a balanced planet while working on technically challenging problems in numerical simulation perfectly aligns with my career aspirations.

Thank you for considering my application. I look forward to discussing how my skills and enthusiasm for physics-informed machine learning could contribute to SLB's innovative work in reservoir simulation.

Kind regards,

Owen Joseph Thomas