

Patrick Mortimer

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Professional Summary — Sailing Instructor and Physicist. Interested in mathematics, computer systems, control systems and lasers.

Skills

Mathematics Real and complex analysis, chaos and dynamical systems

Cloud Oracle Cloud

Languages Python, Bash, JS/HTML, Matlab/Simulink.

OS Debian, Windows, Ubuntu.

Control Systems SISO and MIMO, Frequency and State space control and testing.

Physics Quantum mechanics, special and general relativity, quantum matter and light.

Frameworks PyQT5, Matplotlib.

Experience

University of Birmingham

Jun 2024 – Aug 2024

Research Intern

- Spearheaded design and testing of a novel design for a gravity gradiometer, capable of measuring the motion of a 20kg mass in the same room.
- Used ADVLIGORTs and CDS (both developed for LIGO) to implement real-time processing of data.
- Simulated effects of using the gradiometer in real world testing.
- Measured and compared noise levels to those predicted by theoretical modelling.

Midland Sailing Club

Nov 2022 – Present

Sailing/Windsurf Instructor

- Gained experience teaching students with a variety of physical and mental disabilities, using a mix of access and teaching boats.
- Balanced working at midlands to support myself while doing my degree.

Dinton Activity Centre

Jan 2020 – Present

Sailing Instructor

- Worked in stressful environments and a variety of conditions to deliver successful sessions to a diverse range of clients.
- Ran week long courses from stages 1-4 in the RYA national sailing scheme for adults and teenagers.
- Independent nature of teaching allowed development an effective personal style of teaching.

Student Windsurf Association

Jul 2024 – Present

Finance Committee Member (Voluntary Role)

- The SWA is a voluntary organisation that runs events for student windsurfers.
- Role includes gathering quotes, consulting on instructing and managing financial/payment records.

Education

University of Birmingham

MSci Physics

- **Courses:** Maths for Physicists, Scientific programming in python
- **Experience:** Design of control systems, seismic isolation, mechanical and electrical systems, electrical signals, SQUIDs, numerical computation.
- Held multiple roles in the committee for the university windsurf club, including president in my final year. I lead windsurf sessions, recruited new members, and ran socials for the club.

The Piggott School

A-Levels

- Achieved A*AA in Maths, Chemistry and Physics.
- Aided the delivery of maths masterclasses to local primary school students.

Interests

Piano and Music Achieved ABRSM grade 8, and received a music scholarship from the University of Birmingham.

Swimming In my spare time I like to volunteer my time at a local swimming pool, in addition I swim multiple times a week for fitness.