

# JAMES O'DONOHUE

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## PROFESSIONAL PROFILE

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Enthusiastic final year Bachelor of Physics undergraduate with hands-on experience in a professional software development environment. I possess a keen interest in programming and software development, utilizing computational techniques in my studies and beyond. Proficient in Python and C, I am also actively learning HTML and PHP for web development. I am seeking a summer placement to apply and enhance my computational skills while exploring a future career in the programming sector.

## EDUCATION

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### University of Southampton

*September 2022 - Present*

Bachelors of Physics

Relevant modules: BSc Project, Computer Techniques in Physics, Medical Physics, Physics from Evidence...

- Developed complex simulations of physical systems, including a Monte Carlo simulation to compute the critical mass of uranium-235 and using simulated annealing for finding ground state configurations of physical systems.
- Embraced new technologies and methodologies such as Python, C, and object oriented programming, demonstrating adaptability and a commitment to continuous learning.
- Utilised scientific literature databases to enhance research and analytical skills, effectively navigating complex challenges and guiding my problem solving.

### Clongowes Wood College

*August 2016 - June 2022*

Leaving Certificate

Accounting (H3), Biology (H1), Chemistry (H1), English (H2), Mathematics (H1), and Physics (H1).

## EMPLOYMENT

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### University Hospital Southampton NHS FT

*July 2024 - Aug 2024*

Intern healthcare software developer with the Scientific Computing team as part of the Imaging Physics Group at University Hospital Southampton

- Developed strong independent research and software development skills while contributing to healthcare software projects.
- Enhanced team communication and public speaking abilities through daily stand-up meetings and by presenting internship results to the wider Imaging Physics Group.
- Followed the software development life cycle (SDLC), utilising Bitbucket for version control with Git, and managed internal progress reports to review Jira tickets.
- Coordinated with multiple departments to lead a comprehensive software product evaluation, resulting in a fit-for-purpose assessment and providing strategic recommendations for future actions.

### Freelance RYA Dinghy Instructor

*June 2021 - present*

- Demonstrated excellent communication and leadership skills by delivering high-quality water sports sessions to diverse groups and individuals across various locations, including inland reservoirs and coastal harbours, effectively navigating unique challenges at each site.
- Aided in the training and onboarding of new staff, fostering a collaborative team environment and ensuring consistency in instructional quality.
- Designed and prepared engaging lesson plans to teach complex sailing concepts to a broad audience, ensuring clarity and understanding for participants of all skill levels.

- Fostered a safe and inclusive learning environment, adapting teaching methods to meet the needs of different learners and enhance their overall experience.
- Demonstrated adaptability by dynamically assessing situations and reallocating resources as needed, shifting focus to address challenges, and consistently considering how daily activities aligned with overall progress objectives for the week.

## EXPERIENCE AND PROJECTS

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**Personal IoT, data analysis, and web-dev projects** A strong passion for programming and software development, curating a strong foundation in C, Python including Object oriented programming, and using tools such as Git and autopep8.

- **Weather Station with a local HTML web interface:** Developed a weather station that collects and displays real-time data through a user-friendly HTML interface, allowing for easy monitoring of local weather conditions.
- **NextCloud cloud storage server:** Set up a personal cloud storage solution using a Raspberry Pi 4B running Ubuntu Server, enabling secure access to files from anywhere on the web.
- **OBDii data processing:** Created a script that processes performance data from a Bluetooth ELM327 transmitter in my car to generate statistics for evaluating fuel efficiency improvements.
- **Stock Market analysis:** Utilised Nasdaq's public API and experimented with PyTorch to develop predictive models for short-term market trends, enhancing my understanding of and machine learning.

### Events Officer of the Physics Society

*April 2024 - present*

Demonstrated project management and organisational skills, along with excellent formal communication ability.

- Attended the Institute of Physics's (IOP) FUSE student society conference, engaging with representatives from across the UK and Ireland to share knowledge and experience in event management.
- Developed strong leadership and communication skills by planning and organising the annual winter formal, successfully hosting over 110 attendees.

### Welfare and Inclusions Officer of the Lifesaving Society

*June 2023 - present*

Responsible for ensuring the inclusion and well-being of all members in society activities, fostering a supportive and positive environment.

- Collaborated with organising parties for social events and training sessions to ensure that the needs of all members were considered, promoting inclusivity in all activities.
- Managed welfare incidents between members and addressed individual concerns, effectively reducing conflict and directing individuals to appropriate resources for support.
- Coordinated accessibility adjustments and accommodations for members at competitions, working closely with the sports governing body to establish necessary provisions and ensure their implementation.

### Competition Secretary of the Lifesaving Society

*March 2023 - July 2024*

Oversaw the organisation and management of the club's participation in lifesaving competitions throughout the academic year, ensuring smooth operations and team coordination.

- Coordinated the entry and attendance of the club at seven lifesaving competitions, managing deadlines and logistics for team entries, accommodation, and meals for weekend events at other universities.
- Organised and hosted the club's home competition, which involved venue hire, extensive written communication with stakeholders, and administrative meetings to ensure a successful event.
- Developed strong organisational and project management skills by balancing multiple responsibilities and ensuring all aspects of competition participation were executed efficiently.

## KEY SKILLS AND COURSES

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**Key Skills:** Python, C, HTML, Linux, Report writing, LaTeX, Github.

**Courses:** UoS Python training course, RLSS Sports Official, RLSS Lifesaving Instructor, RYA Dinghy Sailing Instructor, RYA First Aid, RYA Day Skipper, GMDSS Radio Operator.