WILLIAM CAIGER

PERSONAL PROFILE

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While maintaining diverse interests across the physical sciences and philosophy, I am driven to understand deeply. This is why the interface between academia and industry excites me. Extending my studies across subjects has made me an agile and intrinsically collaborative problem-solver. Years of competing in, and organising sailing has shaped my resilient yet cooperative character; honing leadership and management skills.

EDUCATION

MSci Physics and Philosophy   2021 - 2025
UNIVERSITY OF BRISTOL

First Class honours (77%) whilst taking further physics modules outside of my degree requirements. I developed a focus on quantum information theory, condensed matter topology and high performance computing for simulation. These culminate in my physics dissertation on simulating the properties of Majorana states in 1D quasicrystals.

Trained skills of written and oral communication, critical analysis of complex arguments, creativity and abstract conceptualisation through a range of philosophical problems within and outside the physical sciences.

International Baccalaureate   2019 - 2021
SEVENOAKS SCHOOL

Studied Maths Analysis & Approaches, Physics and Chemistry at higher level; achieving an overall score of 45/45.

WORK EXPERIENCE

Hon. Research Associate   Summer 2025 - present
HIGH-LEVEL RESEARCH AND PUBLISHING

Supervisor: Felix Flicker. Engaging with theoretical research group dynamics in the Felix Flicker Condensed Matter Theory group. Working on two publications spun out from my master's dissertation on Majorana bound states (MBS) in 1D quasicrystals. *Fractal Topology of Majorana Bound States in Superconducting Quasicrystals* pre-print can be found arXiv:2602.02796, along with updates on my website.

National Quantum Computing Centre (NQCC) Internship   Summer 2024
INDEPENDENT RESEARCH AND PROJECT MANAGEMENT

Supervisor: Alex Owens. Worked in the Trapped Ion Quantum Computing (TIQC) team as an experimental researcher. Created an automated fibre coupling alignment system from scratch to be implemented on all lab laser systems – outperforming the best manual alignment and simultaneously aligning all lab systems in < 20 mins. Constructed a Bayesian ML algorithm to run natively on ARTIQ real-time control environment; it synthesised theoretical knowledge of the alignment problem and practical limitations of the piezoelectric actuators to arrive at alignment quickly, and maintain it through a non-trivial loss landscape. Engaged in development series on scientific writing and project management as well as maximising learning from experts in TIQC and algorithms.

KETS Quantum Security Internship   Summer 2023
COLLABORATION, PRESENTATION AND PROJECT PLANNING

Supervisor: Robert Starkwood. Worked as an R&D engineer creating an automated calibration system for integrated photonics chips within KETS' Quantum Key Distribution (QKD) system. Rapidly familiarised myself with the QKD system during on-boarding; this required centralising disjointed company information, planning and justifying my proposed project plan to the team. Designed and fabricated test apparatus and software before presenting my work to the entire company; concisely communicating technical work to an audience with a wide range of expertise.

National-Level Sailing Coaching
2018 - 2020

Coached part of the UK National Squad for two years. Developed interpersonal skills dealing with young people and individuals with potentially disruptive learning disorders. Gained significant experience in oral and visual presentation both solo and with supporting coaches, and communication of knowledge to others in challenging environments.

SELECTED VOLUNTEERING AND PROJECTS

Western Keelboat Association (WKA) Chairman
2024 - present

PROJECT PLANNING, PRACTICAL LOGISTICS AND CORPORATE FUNDRAISING

Led the formation of the WKA, a brand new CIO which manages a fleet of keelboats – the first of its kind in the South-West UK – with an innovative business model which hosts collaboration across 6 regional universities and more. Managed full stack of company organisation from legal frameworks to funding calls to media campaigns.

University of Bristol Sailing Club (UBSC) Treasurer
2023 - 2025

GROUP MANAGEMENT, LEADERSHIP AND PROBLEM SOLVING

Elected twice to manage the finances of the UBSC which has an annual turnover of over £100k and 4 distinct sub-groups catering for up to 150 members. Collaborate with internal partners and external organisations for day-to-day running and organising large charity and for-profit events. Work together with the committee to maintain short-term financial stability whilst managing the upkeep of high-value assets, forecasting up to 10 years in the future. Our continued aim to bring good value sport to our members requires me to plan and implement continually innovative solutions.

Catalyst Science Magazine
2020 - 2021

CROSS-DISCIPLINE COLLABORATION AND SCIENTIFIC COMMUNICATION

Co-founded Sevenoaks School's first science magazine which won the Shine School Media Awards 'Rising Star' 2020. Our team of 4 assembled writers, editors and visual designers, coordinating a regular publication. I lead a philosophy of science section; writing on the interface between quantum and macroscopic models and determinism.

AutoNaut Design & Marketing Project
2018 - 2019

3D CAD MODELLING AND MARKETING

Worked with AutoNaut to redevelop their branding, producing a report and display presentation. Gained experience using SolidWorks 3D CAD software and fabrication techniques to create a model of the unmanned vehicle.

Competitive Sailing
2014 - Present

HIGH PRESSURE ENVIRONMENT AND WORKING RELATIONSHIPS

My experience competing at an international level translates to an ability to work well under significant pressure. Building close working relationships with my sailing partners has prepared me for building and maintaining productive professional relationships with co-workers.

SKILLS SUMMARY

Each of my experience items above identifies the stand-out skills demonstrated in that role. Here are what I consider to be my five most valuable soft skills and notable technical skills:

Soft Skills	Technical Skills
• Self-motivation	Numerical modelling (Python, Julia, MPI & OpenMP, C++, Qiskit) •
• Strong independent workflow	High Performance Computing (LinuxOS) •
• Adaptability when working under pressure	Data collection & equipment control (Python, ARTIQ) •
• Efficient oral communication	Design & 3D CAD (SolidWorks, html, JSX) •
• Collaborative	Scientific writing (LaTeX) •