Thomas Street MPhys

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Personal Statement

I have built and self-published three video games made using C++ with the raylib library, Unity, and Godot. I am a physics master's graduate with 2 years of post-graduate research experience in quantum engineering with a strong foundation in advanced mathematics, coding, and simulation techniques. My research experience has honed my skills in experiment design, data analysis, and effective communication. Working in a research team has taught me the importance of collaboration, teamwork, and project management.

Beyond my scientific and mathematical expertise, I am a highly creative individual who makes art and is passionate for finding elegant solutions to problems. I thrive under pressure, adapt quickly to new challenges, and take pride in being proactive, whether working independently or with a team.

I am eager to expand my knowledge, take on responsibility, and help others grow. I am excited to bring my passion for problem-solving and love of learning to new challenges and apply my skills to forge a better world for all.

Coding languages

- Throughout my education and employment, I have become proficient in C, C#, C++, Unreal 5, Unity, Godot, GDScript, Python, HTML, CSS, JavaScript, Git, MATLAB, and Maple.

Employment

Independent Game Developer Oct 2023 – Present

- Independently developed and published three browser-playable video games on itch.io using: Unity (C#), C++ with the raylib library, and Godot (GDScript).
- I crafted all the art assets, music, and sound design for my games myself pursuing a cohesive experience. As well as produced trailers and promotional content for YouTube, Instagram, twitter, and TikTok to market the games and attract a broader audience.
- Participated in and submitted a game for the GameDev.tv Game Jam 2024.
- Proficient in Git for version control management.
- Experience with Unreal Engine.
- Portfolio website: spookystreet.xyz

Quantum Engineering PhD Student, University of Bristol & Macquarie University Oct 2020 – July 2022

- My work was a multidisciplinary project covering nanoscience, photonics, and quantum computing. I focused on designing an integrated waveguide chip, fabricated by femtosecond laser direct writing, that would use quantum dot micropillars as a source of single photons to generate photonic cluster states, which could then be used for measurement-based quantum computing.
- This roll gave me significant experience: performing photonic simulations & modal analysis using Synopsys RSoft, Python & MATLAB, giving frequent presentations of complex ideas, leading group meetings, and expanded my scholarship experience through numerous literature reviews. As well as developing my independent working, organisational and planning skills, interpersonal skills, remote working, stress management, data processing, organisation, and project management skills.

Barista at Long Barn Café Oct 2019 – Jan 2020

GCSE Maths Tutor Dec 2019 – March 2020

Education and Awards

Second-class first division MPhys Hons, Master of Physics, University of Bath 2015 – 2019

- I achieved an overall grade of 68%, receiving 72% for my final year master's project.
- My final year project was titled 'Spectroscopy of two-dimensional materials via optical fibres' under the supervision of Prof. Daniel Wolverson and Dr Kristina Rusimova.
- During the first two weeks of my master's project, I developed a quick and versatile method for printing 2D materials, mainly transition metal dichalcogenides, directly over the cores of optical fibres. This allowed me to perform various characterisation experiments such as: exciton absorption, photoluminescence, and Raman spectroscopy. The main benefit of attaching a 2D material to a fibre for characterisation experiments is that it lessens the burden of experimental alignment. During this project I was trained in the use of lasers, chemicals, and cryogenics.
- From studying Physics, I have gained a wide range of transferable skills, such as team working, time management, self-motivation, independent working, communication and presentation skills, scholarship experience, practical laboratory experience, creative problem-solving, and have greatly improved my academic writing skills.
- Modules included: Advanced Quantum Theory, Mathematical Physics, Nanoscience, Photonics, Advanced Problem Solving, MPhys research project, General Relativity, Simulation Techniques, Mathematical Methods, Quantum Mechanics, Laser Physics, Computational physics A (Maple), Computational physics B (C++), Electromagnetism 2, Superconductivity, Networks, Experimental physics and computing 2(C), Experimental physics & computing 1 (Python & MATLAB).
- During advanced problem-solving, we were tasked with creating our own physics problem, for which my problem won a prize for being the most creative.

A Level Grades Peter Symonds College, Winchester 2013 - 2015

Maths (A*), Further Maths (A*), Physics (A*)

AS Level Grades Chemistry (A)

GCSE Grades: Perins School, Alresford, Hampshire 2008 – 2013

Maths (A*), Physics (A*), Biology (A*), Chemistry (A), Resistant Materials (A), History (A), Computing (A), English Literature (A), English Language (B) & French (C)

Awarded Nuffield Research Placement, University of Southampton August 2014

- I spent four weeks in Prof. Robert Raja's laboratory investigating the best reduction temperatures for gold and palladium nanoparticle catalysts mounted on a copper chloropyrophosphate framework. These catalysts would then be used to assist in redox reactions. I was awarded a Gold CREST award for my research.

Fundraising & Volunteering

Running for charity 2019

- I ran the 2019 Bath half marathon and raised £240 for Jessie's Fund, a charity which helps children with special needs to communicate by using music. This exemplifies my resilience and determination to achieve a goal.
- Completed the 2019 10-mile London South Tough Mudder with a group of friends, to again raise money for Jessie's fund and raised a total of £5,500.

Junior Sports Leader Award 2013

Duke of Edinburgh Bronze Award

Other Skills and Interests

Painting, Drawing, Reading, Gaming, Game design, Hiking, Personal coding projects, Running, Gym, Meditation & mindfulness.