

# Gregory Wright

## Contact

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🐙 **GitHub (new):**

<https://github.com/gregorysjwright>

## Languages

C++, C, Python

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Advanced

Mathematica, Java, C#

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Intermediate

JavaScript, HTML/CSS, MySQL

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Basic

## Awards

Driver's License

Full school Colours for academia.

Various school academic awards in maths, science and ICT/computing.

House award for overall achievement, punctuality, attitude & responsibility.

Jack Petchy award.

Overall school achievement award for best in year for GCSE grades.

Duke of Edinburgh Silver award.

National Citizens service (NCS)

## Sports & Hobbies

Dodgeball (Warwick University, Coventry Silverbacks 2nds captain)

Rock Climbing

Table Tennis

## References

Gareth Alexander (Project Supervisor)

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Erwin Verwichte (Personal Tutor)

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## Education

**Maths & Physics (MMathPhys)**

September 2018 - July 2022

**University of Warwick**, Coventry

Years 1-3: First Class (72%), currently year 4 (integrated masters)  
(transcripts available upon request)

**A-Levels**

September 2015 - July 2017

**Southend High School for Boys**, Southend

Maths, Further Maths, Physics, Computer Science: A\* A\* A\*A  
AS-Level Chemistry: A

Relevant Masters Modules:

**CS917 Foundations of Computing** (Unusual option). Fundamental module covering all the core principles required for postgrad Computer Science students. *Python*.

**PX425 High Performance Computing in Physics**. Solving Maths/Physics problems by writing optimised parallel code using threads (*OpenMP*) / processes (*MPI*). *C. Linux*.

## Projects & Experience (Non-Coding)

**Masters Project**

October 2021 – Present

- Theory project on Chiral Active Matter and Odder Elasticity.
- Independent and original research and problem solving collaboratively with project partner.
- Report writing, project poster and presentation.

**A-Level Maths/Physics Private Tutor**

January 2022 – Present

- Communicating concepts clearly and concisely to multiple tutees with varying ability levels through both online and in-person sessions. Coming up with interesting and unique learning strategies and examples.
- Monitored progress & found weak areas to focus per session.

**Degree Transfer**

(6 weeks) Summer 2019

- 4<sup>th</sup> person ever to switch courses to 2nd year MathsPhys after 1<sup>st</sup> year Physics without retaking the year.
- 6 weeks to learn 1<sup>st</sup> year core maths and sit the summer re-sit papers. Serious time-management, commitment, and efficiency to achieve a very difficult feat.

**Tesco's Grocery Customer Assistant**

March – September 2018

- Carried out stock rotation, reductions, helping customers, working on tills, etc. Full-time.
- Improved communication skills and provided excellent customer service with regular positive feedback from managers after speaking to the customers.

**STEM Research Project (Gold Crest Award)** (4 weeks) Summer 2016

- Researching concepts behind light fields and their capture.
- Plenoptic camera and uses for Lunar Mission One module.

**HMRC Southend IT Internship**

(2 Weeks) 2014

- Shadowed day to day work including fixing computers, diagnosing faults, and replacing equipment.

## Coding Projects

(Please see Github for code files)

### Sudoku App - 'Simple Sudoku (no adds)'

(3 weeks) Summer 2021

- Published on the *Android Play Store* (Publisher Name: 'Gerginator').
- First app designed using *Unity* and *C#*.
- 2<sup>nd</sup> real project using a software development lifecycle with an end-product that isn't simply 'a code file' with *Google Play Console*.

### OpenGL Solar System Simulator

October - July 2017

- Simulated orbits of bodies around a star using *Kepler's laws* and custom game engine.
- Designed a 'simple' 3D game engine using *OpenGL* API.
- Features include a lighting model, texture objects, cube maps, camera movement and GUI implementation with *SDL2* API.
- 3000-line (concatenating c/header files) OOP A-Level project in *C++* with corresponding report.
- Full waterfall SDLC from gathering user requirements, planning to testing and operation.
- Initial problem being my physics teacher wanting a tool to help teach orbits & elliptical motion. The solution correctly predicted the motion of bodies and was user-friendly according to him.
- Achieved almost perfect, best in class, grade with my computer science teacher stating that it could be used as a master's project in a computer science degree due to the complexity.
- Learnt some *Vulkan* due to experiences with *OpenGL* but didn't take on any major projects.

### Penetration Testing

2020 - 2021

- Became interested in cyber security and read about many ideas in articles and online textbooks.
- Learnt *Python Tkinter* to create a gui to easily implement scripts.
- Became more familiar with network protocols, *Linux commandline*, *Microsoft Azure* to create virtual machines and exploit remote test systems. Using *Kali Linux* tools and writing *Python* scripts. Monitoring network traffic with *WireShark*.

### Wolfram Mathematica

February 2022

- Learnt *Mathematica* to visualise mathematical & physical models and solutions for my masters project report.
- Created visually appealing and accurate figures, by importing the models into *Inkscape*, and well-represented liquid crystal systems notably by my report assessors.

### Other Relevant Degree Modules (1st no. – year of study, MA/PX – maths/physics department)

- MA3H0 Numerical Analysis & PDE's (*python*, learnt why numerical solutions to pdes work)
- PX390 Scientific Computing (C, solving multi-dimensional pdes, finite difference, linear algebra)
- PX277 Computational Physics (*python*, integrating/differentiating & modelling all numerically)
- PX150 Physics Programming Workshop (basic *python* fundamentals & scientific *python*)

### Drivers Test Automation

Summer 2021

- I couldn't wait 6 months for a driving test nor mindlessly refresh the cancellations page for days on end. I created a macro to automate the process and found a test for ten days later, the minimum allowed. I was able to help some of my less technical peers with this same method.

## Additional

### Blender Animation

Summer 2021

- Created and animated models to produce a scene illustrating some fundamental dodgeball concepts. Intention to understand drills without being demonstrated in advance and waste time.

### World Challenge 2017 Mongolia

July - August 2017

- Charity work; helped at a school with teaching, building work, landscaping and the repair of a children's playground. Managed group spending and came underbudget by £400.