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Icon

Description automatically generated **GitHub (new):**

<https://github.com/gregorysjwright>

Languages

Intermediate: working/some adv. knowledge

***Python***, ***C++***,*C* (Main = **bold**)

Basic: fundamentals/out of practice

*Mathematica, Java, C#, JavaScript, HTML/CSS, MySQL*

Awards

Full school Colours for academia.

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

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

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

DofE Silver, Jack Petchy award, NCS.

Sports & Hobbies

Dodgeball (Warwick University, Coventry Silverbacks 2nds captain)

Rock Climbing

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)

*(Please see GitHub for transcripts)*

**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

* 4th person ever to switch courses to 2nd year MathsPhys after 1st year Physics without retaking the year.
* 6 weeks to learn 1st 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.

Gregory Wright

Projects & Experience (Coding)

*(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#.*
* 2nd 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](https://moodle.warwick.ac.uk/course/view.php?id=41136) (*python*, learnt why numerical solutions to pdes work)
* [PX390 Scientific Computing](https://moodle.warwick.ac.uk/course/view.php?id=41383) (*C*, solving multi-dimensional pdes, finite difference, linear algebra)
* [PX277 Computational Physics](https://moodle.warwick.ac.uk/course/view.php?id=32203) (*python*, integrating/differentiating & modelling all numerically)
* [PX150 Physics Programming Workshop](https://moodle.warwick.ac.uk/course/view.php?id=28875) (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.

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cc

General & C++ specific skills

*(The list is not definitive)*

**Basics**

* int, float, char, string, …
* Arrays, pointers, references, dynamic memory
* conditions, functions, loops

**Data Structures:**

* arrays, (doubly) linked lists, (binary) trees, graphs, hash tables

**Algorithms:**

* linear/binary search, Dijkstra’s, A\* search, depth/bread first search
* quick, insertion, … sorts

**Performance:**

* Time & Spatial complexities
* Constants, branching, cache hits & misses,
* locality, loop dependencies

**C++ specific:**

* Pass by (const) reference/value, (n)RVO, output parameters
* lambda functions, templates
* uniform initialisation, const, enums
* …

**STL containers:**

* Vector, Array, (unordered)(multi)map/set, …

**Modern C++ (minimal):**

* Concepts
* …

**OOP**:

* Classes/structs, setters/getters, private/public/protected
* inheritance, polymorphism

**Concurrency:**

* Threads & processes
* OpenMP, MPI.
* Not in C++

**Networking**

* basics/out of practice

**Operating systems**

* basics/out of practice

*(Please see Github for most up-to-date CV and alternate file type)*

Work Preferences

Type of Work: Software Engineering

Preferred Industry: n/a

Open to Relocating: Yes

Preferred Type: Hybrid flexibility

Mode of Transport: Car, public transport

Location: Cambridge, London,

West Midlands

Basic Information

Current Location: Coventry

Nationality: British Citizen

Graduation date: July 2022

Start availability: asap

Notice Period: n/a

Booked Holiday: n/a

Car Ownership: Yes

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