George Grainger

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Education

2020-2024 **The University of Manchester**, *MEng(Hons) Computer Science, Expected First class.*
Achieved top 5% of 400 second-year students with an 89% year average.
Awarded marks of over 90% in Intro to AI, Intro to Visual Computing, Algorithms and Data structures, Software Engineering, Operating Systems, Mathematical Techniques for Computer Science and Data Science.
Placed best in year for System Architecture with a 92% average.
Won Netcraft Prize for top 10 first-year students with a 90% year average.

2017-2019 **Royal Grammar School, Newcastle upon Tyne**.
A-Level Results - A*A*AA in Physics, Mathematics, Further Mathematics and Psychology.
Other Qualifications:
- British Physics Olympiad - Commendation *(Top 2000 in the UK).*
- TMUA - 7.0 *(Top 20% of Candidates).*

2012–2017 **Marden High School**.
GCSE Results 8 A*s, Grade 9 in Maths, Grade 8 in English Literature, Grade 7 in English Language.

Experience

2019–2020 **Enigma Interactive**, *Junior Developer*, enigma-interactive.co.uk.
OOP using Java: Collaborated alongside three senior developers on the 'core team' , building the foundational set of functionality upon which the majority of sites extend. Demonstrated the importance of clear APIs, how to work on large codebases, and thorough testing.
JavaScript & PHP: Developed transplant-resource.newcastle-hospitals.nhs.uk for NHS Heart and Lung transplant patients using custom-made WordPress themes and plugins. Enforced the need for accessibility and intuitive design, so regardless of technological literacy all patients feel comfortable using the site. Furthermore, involved discussion and communication with clients, increasing ability to understand and implement requirements.

Programming Python, C, C++, Java, Javascript - React, SolidJS, JQuery, HTML, CSS, PHP, ARM assembly, Verilog.

Projects

2022–Present **Reinforcement Learning Research**, *PyTorch, Third Year Project.*
Simulating the dopamine system in relation to addiction through neuronal models. Will investigate the influence habit formation and risk factors have on brain motivation circuitry. Requires formalising neurotransmitters, synapses and cognitive control while maintaining a set of assumptions to manage simulation complexity. Evaluation through comparison with real-world data, testing the validity of the model.

2022–Present **Georgegrainger.com**, *SolidJS, Typescript, CSS, Figma.*
Increased understanding between design creation and implementation and an up-and-coming JS framework. Focused on clean and efficient CSS animations, with option to reduce animation to maintain accessibility. Interacted with the Spotify API to show top tracks and current listening, cementing ability to set up and interact with existing APIs.

2021–2022 **Stendhal**, *Java, Open Source, Testing*, stendhalgame.org.
Debugged and fixed issues on a large, 10,000 line open-source codebase using Eclipse, Ant, JUnit and Jenkins by writing custom unit and integration tests. Proceeded then to add features to the MMORPG. Taught how to navigate a new, unknown codebase and then make reasonable time estimates for development within the team.

2020–2021 **Symput**, *NextJS, Firebase, TailwindCSS.*
Created a full-stack website symput.com for the inbuilt android keyboard produced in first-year team project. Achieves above 90% on all Google Lighthouse metrics, and 100% performance on Vercel analysis. Features include:
- Language Support in English, Chinese and Arabic
- Feedback system, with profiles alongside the ability to create, like and edit posts
- PWA support
- Authentication and Verification of accounts
- Serverless functions for moderation of posts, and deletion of account data for GDPR compliance
- Dark mode support

Interests

Rugby - teamwork, Climbing - problem solving, AI, Graphics, Hardware design