

# John Medina

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## Education

**Computer Science With Innovation (MEng), University of Bristol** 2018 - 2022

Currently working at a 2:1 to 1st class level

**A Levels and GCSEs, Wembley High Technology College** 2011 - 2018

**A Levels:** Maths (**A\***), Further Maths (**A**), Physics(**A\***), History AS (**A**)

**GCSEs:** 17 GCSEs A\* - B, including English (A\*), and Maths (A\*)

## Relevant Experience

**Software Engineer Intern, Siemens Process Systems Enterprise** June–Sept 2021

For 3 months I worked for Process Systems Enterprise, a world leader in digital process modelling technology. I developed a system-wide 'dark mode' User Interface for their Java Swing-based gPROMS core platform. As well as the Java Swing library, I was able to learn key skills such as industry-standard version control (Git), code-review processes (Gerrit) and issue/information management (Trac). I learnt from experienced developers about good practices in application development and architecture, and experienced the benefits and challenges of working in a global, multidisciplinary workforce.

**Demonstrator + Graduate Teacher (1), School of Computer Science (SCEEM), University of Bristol** Sept 2020–Present

I assist in the delivery of the Software Product Engineering (SPE) and Computational Neuroscience (CN) second and third year modules. In SPE, I mentor and assist students in developing software solutions for real-world clients through practices like Test Driven Development and Agile. In CN, I assist in delivering an introductory course covering the modelling of computation in the brain and its application to areas like machine learning and AI.

## Projects

**CSS 24 Hour Game Jam** Nov 2020

This project involved developing a game within 24 hours. My team and I worked remotely to develop a 'rhythm based side-scroller' using the Unity2D Engine. This project taught me the resolve and collaborative clarity needed to successfully deliver a functional game in under 24 hours. My main contributions to the project were in the development of the 2D sprites and backgrounds, animations using Unity and C# scripting. The game can be found [here](#).

**Experimental SDL Graphics Engine** Sept - Dec 2020

Through Computer Graphics, a module that taught the mathematical underpinnings of modern graphical engines, I was able to create my own using the (C++) OpenGL API in the SDL library. This taught key concepts like wireframe rasterization, camera transforms, ray tracing and more.

**Concurrent Game of Life (GoL)** Dec 2019

Using **Go**, I created a multi-threaded implementation of John Conway's Game of Life, using concepts like message passing and memory sharing. This project taught me key concepts in optimisation, concurrency programming, as well as insight to the general design and use of modern (multi-threaded) computing units.

**BIF Drone Sim, Bio-Inspired Flight Research Group (UoB), SPE** Jan–June 2020

We developed a mobile game to display the research conducted by the **Bio-Inspired Flight Research Group**. This project developed my skills in Java programming through designing the high-level architecture that incorporated proprietary systems (e.g. my improvised physics engine) with known graphical libraries like **Processing 3**, custom 3D models and animations.

**Scott Logic AI Challenge, Scott Logic** March 2019

An 5 hour object-oriented 'hackathon' with the aim of developing an automated agent to effectively play a game designed by the Scott Logic Outreach Team. This event introduced me to the field of AI agent design and developed my skills in Java programming. We won the event with a context-reactive design approach.