# Matthew Lockhart

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## Education

**University of Hull** — Hull, England
Bsc (Hons) Computer Science *GPA: 1st Class Honours* — Sep 2021 - July 2024

**Hill House School** — Doncaster, England
A-Levels Business Studies, Classical Civilisation, Economics, EPQ — Sep 2018 - July 2020

## Experience

**AMP Automation** — Gainsborough, England
*Controls Engineer* — Aug 2024 - Present

- I am responsible for developing and maintaining control systems for cartesian/delta robots used in packaging lines.
- Writing code that interacts with PLC controllers using Structured Text.

## Skills

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| Languages: | C#, C++, Rust, CUDA, Python, HTML/CSS, Structured Text |
| Frameworks: | Flask, .NET, MLAgents, ASP.NET Core, Windows Forms, Bootstrap |
| Databases: | SQLite, SQL Server |
| Libraries: | OpenGL, OpenTK, GLFW |
| Engines: | Unity |

## Projects

**Identify** *Python, Twitter API, Flask, HTML/CSS/JavaScript, Scikit-Learn, SQLite*
Developed a Machine Learning Model using Natural Language Processing (Logistic Regression) to identify illegal wildlife trade taking place on Twitter using live tweet data via a custom Twitter data scraper using Twitter API, hosted on a website developed with Flask utilizing a Python written backend with an SQLite database for user sign-up, authentication, and user-information

**ASP.NET Core Web API** *C#, ASP.NET Core, SQL Server*
Created an API with various functionalities showcasing user authentication, authorisation and other features. Created and managed a SQL Server in an ASP.NET Web API for user accounts, logs, and archives.

**Meat-Man** *C#, OpenGL, .NET, OpenTK*
Created a 3D Pac-Man style game using a custom-built engine (C# + OpenGL) with modular systems such as AI, Rendering, Physics, Audio, and other gameplay mechanics using component-based architecture. The Pac-man clone was built to demonstrate the engine's usability in developing future games.

**Cloth Simulation** *Rust, C++, CUDA, GLFW*
The soft body simulation was created in both Rust and CUDA hosted from C++ to demonstrate the ability of implementing a multi-threaded project on both the CPU and GPU. The simulation is rendered using GLFW.

**Sudoku Solver** *C++*
A project using C++ that solves valid sudoku problems programatically. This project solves 9x9 sudoku's in around 20 Microseconds..

**CTF** *Unity, C#, Agile*
A project developed using Unity and managed using Agile methodology. I created a local multiplayer 2D Capture the Flag game with a map based upon the University of Hull campus.

**Portfolio Website** *HTML/CSS/JavaScript, Bootstrap* — www.matthewlockhart.co.uk
Developed an online portfolio further detailing my experience/projects/qualifications.

## Additional Qualifications

Beginner command of the Swedish Language

Driving license with own transport