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| Joshua Barrass  Computer Science (Software Engineering) Student at Royal Holloway | Flat 37, Prestige House  Egham, TW20 9Du  **+44 7497193232**  [**joshuabarrass010203@gmail.com**](mailto:joshuabarrass010203@gmail.com)  **www.JBarrass.dev** |
| EXPERIENCESiemens Mobility, London — *Software Engineer*July 2023 - July 2024 (Set-in End Date) Software Engineering on a range of different Projects from internal tooling for storing to correctly ‘life-cycling’ Engineering changes to C++ software for an on-train network security system and working on a Train Sim-Tool architecture redesign applying industry standards and allowing for better future development. Other Projects have included small automation tooling for people to improve their personal work-flows. Ladbrokes, Egham — *Cashier*February 2022 - PRESENT Worked at Ladbrokes part-time to get extra money whilst at university. EDUCATIONRoyal Holloway, Egham — *Computer Science (Software Engineering) With a year in Industry*September 2021 - July 2025 Although not completed yet this is the Degree I am currently taking at university. Franklin College, Grimsby— *A-Level Computer Science (A), A-Level Mathematics (B) and B-tec Business (D\*)*September 2019 - July 2021 My college education though Covid, Still the Equivalent to AAB. PROJECTSBattery/Hydrogen Train Sim Tool — *Python Based MVC application* Whilst at Siemens, One of the larger project I worked on was re-designing the architecture of a battery train sim-tool in order to allow for better performance and future development. The original tool was largely a single threaded, linearly coded application which caused a lot of hard-to-read files, difficulty in debugging and zero testing. In my re-design of the platform, I introduced an MVC pattern to avoid mixing the logic and the ‘UI’, developed interfaces for the Model and view (the View is planned to be morphed into a web-server to be called on to run the simulations on an AWS e3 instance OR within an AWS Lambda depending and run-time) to allow for easy development changes, abstracted the backend into it’s main systems to make adding new features like different powertrains much easier and forced the project into OOP and TDD to make the testing for the tool required and easier to do with correctly designed classes. Further optimisations within the code-base were introducing multi-threading into the backend so that multiple simulations can run concurrently and Caching due to a lot of repetitive calls in the simulation loop. Train Traffic Graphing — *React (Typescript) & Express.js* Whilst at Siemens, I developed a web-based graphing tool that connected to RealTimeTrains API to calculate the number of trains in between 2 stations at any given time of the day. There was a full requirements list given for the project and rules the graph had to adhere to. This project is available on my GitHub. Java Robotics Project — *Lego EV3 Robotics* In first year, university, we had a 4 person Java Robotics project. We had to learn about behaviours and coding in action priorities. Overall, for this project I personally got an A and 89% in the whole module. Software Development Project — *5-person group project* In first year, university, we had an invite only extra module which would replace one of the normal ones. On this module, we had a 5-person project where we had been given 12 user stories, a brief and some uml diagrams of the software. We decided to use Python Django with Rest API, JWT and MySQL backend with Reast.js front end. Implementations of A\* in C# and Python — *C# terminal and pygame* In Covid, I began attempting to develop an A\* path-finding algorithm in the terminal with C#. Once completed, I then attempted to re-do this in python with pygame as to have a GUI. Looking back at these 2 projects, there are obvious optimisations and oversights in the code however 4 years later I’m still proud of these 2 projects and will re-visit them at some point as I want to create a 3D implementation of them in either UE5 or Unity | SKILLS  * Python - Since 2015,  Coding in python since 2015. Created multiple personal and client programs. Used in University project work. * SQL - Used since 2018, Used in University projects and A-Level projects. * Java & JS - Used since 2021. Used Java for all Year 1 Projects in University and JS for some Year 1 and Year 2 Projects. * C# - Used since 2016. Used in basic Unity projects, Used for A-Level Final project. * Maven - Since 2022, Used for standardising the file structure and imports of a project. * Adobe Suite - Since 2017, Used for client work in photoshop and Premiere Pro video editing.   C++ - Since 2015, Although used since 2015, most of my work has been in 2022 to 2024 on an Internal Tool at Siemens and for my university work.  Web-application Development - Since 2023, Whilst at University and at Siemens, I’ve worked on a lot of front and back-end based web apps. Links GitHub - [www.github.com/JoshuaBarrass](http://www.github.com/JoshuaBarrass)  LinkedIn- [www.linkedin.com/in/joshbarrass](http://www.linkedin.com/in/joshbarrass) |