

Joseph Alexander Binns



Sweden / England based






EMPLOYMENT

- Study Support Mentor**, *Lund University, Sweden* *March 2021 – present*
• Providing one-to-one tailored support and teaching for BSc students at the Department of Physics.
- Festival Steward**, *Oxfam, UK* *August 2019, August 2021*
• Assisted at some of the UK's busiest festivals. Delivered efficient and proper radio communication as the acting supervisor handling critical medical emergencies.
- Software Engineer**, *MLabs: Urban Mobility Labs, Bloomsbury, London, UK* *July 2019 – August 2019*
• Lead development on a realistic, real-time 3D urban environment simulation using C# and the Unity game engine, for use by an automated transport planning system.
• Released the first build, establishing the core framework for future developments.
- Baker**, *Marks & Spencer, Bromley, London, UK* *August 2018 – July 2019*
• Regularly interacted with customers and surpassed the company goals in a team oriented environment.
- Conservation Volunteer**, *TCV, Greenwich, London, UK* *December 2016 – August 2019*
• Worked in a heavy labour environment in both leader and team player roles.
- National Citizen Service**, *UK* *July 2016*
• Participated in 1 month worth of public speaking workshops and team building activities.
• Ultimately launched a successful pitch to philanthropists, for the benefit of local charities.

EDUCATION

- BSc Theoretical Physics**, *Lund University, Sweden* *Aug 2019 – present*
• Selected Courses: Artificial Intelligence, Computational Physics, Quantum Mechanics.
• Notable Achievements: Semi-finalist in the 2021 Lund Innovation Challenge.
• Thesis is on the topic of determining the weak decay regularisation strength in Artificial Neural Networks.
- A Levels**, *SFH Sixth Form, London, UK* *July 2016 – July 2018*
• Selected Courses: [A] Physics, [A] Mathematics, [A] Further Mathematics, [B] Computer Science, [A] Extended Project Qualification
• Notable Achievements: Two time Brilliant Club Scholars Programme graduate, for high achievers.
- GCSEs**, *Forest Hill School, London, UK* *July 2011 – July 2016*
• Notable Achievements: Selected by my peers to be one of few school prefects, from a pool of over 1000.
Recipient of the Academic Endeavour Award.

SELECTED PROJECTS

- Stylised Character Controller**,    *August 2021 – present*
• Developed a Stylised physics-based Character Controller.
• Worked as a C# Game Programmer in the Unity game engine.
• Featured in GameDevDigest.
- Raymarch Explorer**,   *April 2019 – August 2019*
• Developed a real time Raymarch Explorer capable of 3D fractal deep zooms.
• Worked as a Software Engineer in both Java and OpenGL using the LWJGL.
• Utilised arbitrary precision arithmetic on both the CPU and GPU.
- N-body simulator** *August 2017 – March 2018*
• Developed a Real Time, n-body Gravitational Simulator and GUI.
• Worked as a C# Software Engineer in the Unity game engine.
• The program accesses (via Telnet) planetary data from the NASA Horizons database. Utilises various complexity reducing algorithms to optimise a large-scale physics-based simulation.

TECHNICAL SKILLS

Programming Fluency: C#, Python, JavaScript, Java, C++, MATLAB, \LaTeX , HTML, CSS.
Libraries / Frameworks: Tensorflow, Keras, LWJGL, Mapbox, Discord.js, Forge Networking, WordPress.
Additional Tools: Git, Unity, Blender, Photoshop, Aseprite, Famitracker, Visual Studio.