

# Joseph Alexander Binns

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## EMPLOYMENT

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- 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, Boomtown Fair & Reading Festival, 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**, *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

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- BSc Theoretical Physics**, *Lund University, Sweden* *Aug 2019 – present*  
• Selected Courses: Artificial Intelligence, Computational Physics, Quantum Mechanics.  
• Notable Achievements: Elected multiple times as course representative on this prestigious program.  
Semi-finalist in the 2021 Lund Innovation Challenge.
- 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

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- Raymarch Explorer**, [showcase](#) *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 mathematics on both the CPU and GPU.
- Ludum Dare & GMTK Game Jams** *April 2019, August 2019*  
• Regularly involved in the 48 hour Open Source Game Jam events.  
• Worked as both a C# Game Programmer and Graphic Designer in the Unity game engine and Aseprite respectively.
- 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

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**Programming Fluency:** C#, C++, Java, JavaScript, Python, MATLAB, L<sup>A</sup>T<sub>E</sub>X, HTML, CSS.  
**Libraries / Frameworks:** Tensorflow, LWJGL, Mapbox, Discord.js, Forge Networking, WordPress.  
**Additional Tools:** Git, Unity, Blender, Photoshop, Aseprite, Famitracker, Visual Studio.