

CONTACT	112A Walton St Oxford Oxon OX2 6AJ	<i>Mobile:</i> (+44) 7835 108654 <i>Email:</i> jtbayne@gmail.com <i>Web:</i> https://jamiebayne.co.uk <i>GitHub:</i> https://github.com/qualiaa
PROFILE	<p>I am a computer vision engineer with research experience and a strong grasp of mathematics. My professional interests include machine learning, high-performance computing, and physics simulation. I have four years' experience implementing neural networks, nine years' experience programming, and have been developing video games in my spare time since 2011.</p>	
EMPLOYMENT	<p>Computer Vision and ML Engineer, DYNIMUM ROBOT <i>January 2019 to present</i></p> <ul style="list-style-type: none"> • Developed a highly parallel cloud pipeline to combine and analyse data sequences from an autonomous sensor array, generating insights for customers. • Evaluated, trained and modified existing neural network architectures (supervised and semi-supervised object detectors, semantic segmentation, instance-counting networks). • Developed web-app for in-house image-labelling tailored to problem domain. • Refactored C++ ROS camera drivers to improve fault-tolerance. • Worked with CTO to instigate improved CI/CD, testing and development practices. <p>Teaching Assistant, UNIVERSITY OF WARWICK <i>2015 to 2018</i></p> <ul style="list-style-type: none"> • Taught modules: <i>Computer Graphics & Mathematics for Computer Scientists II & Principles of Programming Languages & Logic and Verification & Formal Systems Development & Programming for Computer Scientists</i> 	
EDUCATION	<p>UNIVERSITY OF WARWICK, Coventry</p> <p style="margin-left: 40px;">PhD Computer Science (did not complete) <i>2015 to 2018</i> Topic: Optimising Vision Systems for Autonomous Vehicles.</p> <p style="margin-left: 40px;">MSc Computer Science <i>Distinction</i> <i>2014 to 2015</i> Dissertation: Floating Point Optimisation of Particle-in-Cell Simulation.</p> <p style="margin-left: 40px;">BSc Physics 2:1 <i>2011 to 2014</i></p>	
TECHNICAL SKILLS	<p>Programming:</p> <ul style="list-style-type: none"> • Proficient in C++, Python, Shell, Haskell, C • Experience with Rust, Go, Scheme, JavaScript, Lua, C#, Haxe, and others <p>Notable Libraries and Frameworks:</p> <ul style="list-style-type: none"> • TensorFlow, PyTorch, CUDA, OpenGL 4, Boost, OpenMPI, ROS, Django <p>Other:</p> <ul style="list-style-type: none"> • Docker, GCP, AWS, Linux (12 years), formal specification, Arduino 	
PERSONAL PROJECTS	<p>Over 40 Game Projects <i>2011 to present</i></p> <ul style="list-style-type: none"> • Developed with a wide range of technologies including C++, Haxe, Lua and Unity, alone and in teams of up to six people. • Portfolio: https://jamiebayne.co.uk/games. 	

- Pico3D (<https://github.com/qualiaa/Pico3D>)** 2017
- A 3D renderer written in Lua for the PICO-8 virtual console.
- Tank Engine (<https://github.com/tank-dev/tank>)** 2013 to 2015
- Designed and implemented cross-platform 2D game engine in modern C++.
 - Worked in team of three as architect and lead programmer.
- Personal Blog (<https://github.com/qualiaa/blog>)** 2018 to present
- Dynamic Markdown → HTML with Django.

ORGANISATIONS **Warwick Game Design Society**

- Secretary, Equal Opportunities Officer and other roles 2012 to 2017
- Created new society website, branding and publicity, safe spaces policy.
 - Organised and competed in hackathons including inter-university and international events.
 - Taught C++ and game development workshops.
 - Delivered talks on accessible design practice and music production.

Next Generation Programmers (NGP) *June 2016 to August 2016*

NGP was a student-led initiative to run a ten-day programming course for 50 children in rural Kazakhstan aged 12–15. I joined the project as one of four tutors, and took on most technical responsibilities.

STEM Ambassadors 2016 to 2018

As a STEM Ambassador, I provided teaching support for extra-curricular STEM activities for secondary and sixth-form students in and around Coventry.

OTHER INTERESTS Writing, music composition, literature, economics, philosophy

INTERESTS

REFERENCES Available upon request