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PROFILE	I am an AI engineer with research experience and a strong grasp of mathematics. My professional interests include computer vision, high-performance computing, and physics simulation. I have over ten years' experience developing artificial neural networks, over fifteen years' experience programming, and have been developing video games in my spare time since 2011.	
EMPLOYMENT	<p>Senior AI Architect, LUFFY.AI <i>June 2023 to present</i></p> <ul style="list-style-type: none"> • Developed new features and enhancements for in-house AI framework and supporting libraries. • Benchmarked in-house technology against SotA deep reinforcement learning models • Trained staff; developed training materials and internal best practice guidelines. • Worked on patent applications, authored IP documentation. <p>AI Engineer, LUFFY.AI <i>August 2021 to June 2023</i></p> <ul style="list-style-type: none"> • Developed physically based simulations for reinforcement learning tasks. • Developed, trained and applied neural networks for reinforcement learning applications, including the flight control of a hexacopter via direct motor actuation. • Developed CUDA backend for in-house AI framework. • Led hiring processes for AI engineers and physics simulation developers. <p>Computer Vision and ML Engineer, DYNIMUM ROBOT <i>January 2019 to July 2021</i></p> <ul style="list-style-type: none"> • Developed and optimised 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. • Refactored C++ ROS camera drivers to improve fault-tolerance. • Instigated improvements to 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>PhD Computer Science (did not complete) <i>2015 to 2018</i> Topic: Optimising Vision Systems for Autonomous Vehicles.</p> <p>MSc Computer Science Distinction <i>2014 to 2015</i> Dissertation: Floating Point Optimisation of Particle-in-Cell Simulation.</p> <p>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, Cython, Shell, Haskell, Rust, C • Experience with Go, Scheme, APL, 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"> • Nix, Docker, GCP, AWS, Linux (15+ 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. <p>Advent of Code (https://github.com/qualiaa/aoc) <i>2018 to present</i></p> <ul style="list-style-type: none"> • Complete solutions to several years, covering a broad range of practical programming techniques and algorithms using diverse set of languages including Haskell, Rust and Python. <p>Pico3D (https://github.com/qualiaa/Pico3D) <i>2017</i></p> <ul style="list-style-type: none"> • A 3D renderer written in Lua for the PICO-8 virtual console. <p>Tank Engine (https://github.com/tank-dev/tank) <i>2013 to 2015</i></p> <ul style="list-style-type: none"> • Designed and implemented cross-platform 2D game engine in modern C++. • Worked in team of three as architect and lead programmer. • Dynamic Markdown → HTML with Django.
ORGANISATIONS	<p>Warwick Game Design Society</p> <p>Secretary, Equal Opportunities Officer and other roles <i>2012 to 2017</i></p> <ul style="list-style-type: none"> • 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. <p>Next Generation Programmers (NGP) <i>June 2016 to August 2016</i></p> <p>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.</p>
OTHER INTERESTS	Writing, music composition, literature, economics, philosophy
REFERENCES	Available upon request