

## Bailie-Peirce Byrne

☎ 07305135149 ✉ [byrnebailie@gmail.com](mailto:byrnebailie@gmail.com) [linkedin.com/in/bailie-byrne](https://www.linkedin.com/in/bailie-byrne) [github.com/bailiebyrne](https://github.com/bailiebyrne)

Second-year Computer Science student passionate about algorithmic problem-solving, high-performance systems, and applied mathematics, currently researching FPGA technology as a hobby.

## Education

<b>University:</b>	<b>Sep 2024 - Jun 2028</b>
BSc (Hons) Computer Science with Software Development (with Industry Placement Year)	(University Of Liverpool)
<ul style="list-style-type: none"><li>Achieved 1<sup>st</sup> Class First Year (Avg: 80%)</li><li>Relevant Modules: <b>Data Structures &amp; Algorithms</b>   <b>Software Engineering</b>   <b>Database Development</b>   <b>Computer Networks</b>   <b>Theory of Computation</b>  </li></ul>	
<b>College (A Level):</b>	<b>Sep 2022 - Jun 2024</b>
Computer Science, Mathematics, Physics	(King Edward VI Stourbridge)
<ul style="list-style-type: none"><li>Received <b>Collis Prize for Computer Science</b></li></ul>	

## Work Experience

<b>MiDAS (Mission Director and Autonomy Systems) Software Engineer</b>	<b>(BAE SYSTEMS)</b>
Software Engineer Intern at BAE SYSTEMS	<b>Jun 2025 – Sep 2025</b>
<ul style="list-style-type: none"><li>Engineered <b>AI</b> computer vision solutions in <b>C++</b>, creating a custom neural network with backpropagation (without external libraries), improving object detection accuracy to <b>99.98% across 10,000+ test images</b>.</li><li>Implemented <b>OTSU</b> thresholding methods to enable object detection without prior model training with a <b>95% success rate</b>, ensuring <b>backwards compatibility</b> with the neural network.</li><li>Created an internal universal debugger using <b>binary and function instrumentation</b>, used to speed up fault analysis.</li><li>Applied <b>SYS-ML</b> modelling in line with the UK MoD Pyramid Reference Architecture and contributed in <b>Agile</b> sprints using <b>Jira</b> (planning, stand-ups, retrospectives).</li><li>Presented technical deliverables to senior leadership, including the <b>CTIO</b> and liaised with the <b>CFO</b>, gaining exposure to <b>C-level decision-making and strategic project discussions</b>.</li></ul>	
<b>Retail/Hospitality</b>	<b>(HB Leisure Ltd)</b>
Games Host At West Midlands Safari Park	<b>Oct 2022 – Sep 2024</b>
<ul style="list-style-type: none"><li>Thrived in a <b>Fast-Paced Environment</b> while maintaining a <b>professional</b> but <b>approachable</b> demeanour to ensure guest retention. <b>Liaison</b> with <b>2000+</b> customers.</li><li>Adapted rapidly in a <b>high-throughput environment</b> maintaining professional communications, receiving <b>0</b> complaints.</li></ul>	

## Qualifications/Licenses

<b>Goldman-Sachs &amp; Wells Fargo - Software Engineering Virtual Work Experience(s)</b>	<b>Oct 2024</b>
<ul style="list-style-type: none"><li>Use of cryptographic software to crack a database leak with a 14M+ wordlist providing feedback in securing future systems.</li><li>Use of <b>Python</b> and <b>Hasheat</b> within a <b>Linux</b> environment to suit 3 dependent application requirements.</li><li>Use of the <b>Java</b> language to construct 5 classes in relation to <b>refactoring</b> a banking codebase.</li><li>Required strong syntax with <b>0%</b> tolerance for error as this job was to <b>mimic production level software</b>.</li></ul>	

## Projects

<b>Python-MMORPG</b>   Multiplayer   AI   Source Code	<b>Python</b>   <b>SQL</b>   <b>TypeScript</b>
<ul style="list-style-type: none"><li>Developed a fully functioning online MMORPG using the Python language, incorporated was AI pathfinding algorithms and complex mathematical angular formulas. Data manipulation and representation of 10+ file types and varied sizes.</li><li>Use of generative algorithms to populate in game containers, which can be accessed concurrently by 4,096 players.</li></ul>	
<b>Java-Web-Banking-App</b>   Website   Enterprise Grade   Source Code	<b>Java</b>   <b>ReactJS</b>   <b>SQL</b>   <b>HTML/CSS</b>   <b>JavaScript</b>
<ul style="list-style-type: none"><li>Created both a fully functioning Front and Back-end <b>Spring Boot</b> web application to host a banking software with modern security features like <b>JWT</b>, <b>CORS</b> filters and use of self-signed <b>SSL certificates</b> to provide <b>HTTPS security</b>.</li><li>Developed the front-end delivered by ReactJS to leverage functionality while maintaining a <b>sub 20ms</b> response time.</li><li>20+ <b>REST API</b> endpoints some secured behind authorities', others publicly accessible. Tested with <b>JUnit</b> tests as well as development tools like <b>Postman</b>.</li></ul>	

## Technical Skills

(Ordered By Proficiency)

**Languages:** | Python | C++ | Java | SQL | HTML5 & CSS | Haskell | ADA | TypeScript | JavaScript |

**Developer Tools:** | Jira | Git & GitHub | JUnit | Lombok | MKcert | Postman |

**Libraries/Frameworks:** | Spring Boot | ReactJS | Maven | NodeJS | Docker | DDS (RTPS) |

**Methodologies & Environments:** | Agile (Scrum) | CI/CD Exposure | Linux Environment | Test Driven Development |

**Other:** | Standard DBS | Enhanced DBS | Security Clearance (SC) |