

Jack Sylvester Barnett

Full Stack Software Developer | jbarnett96@googlemail.com | 0402 884 169 | <https://jacksb.com>

Professional Summary

With over four years of experience in software development, I have gained expertise in a variety of technologies, including AWS services, Typescript, JavaScript, ReactJS, Python, SQL and NoSQL databases, as well as broader aspects of software and web development. As I advance in my career, my objective is to continue developing my skills while contributing to complex and meaningful projects.

My experience covers a broad range of projects, such as implementing AWS deployments with CDK, optimising AWS resources to cut costs, developing a multi-site authentication server, building custom data automation systems for configurable pipelines, and creating solutions for distributing data from central sources. I also used AI and language models for extracting metadata of files and indexing into OpenSearch, enabling advanced search and information management, and was responsible for planning and implementing the entire AWS infrastructure, frontend, and backend.

Key Skills

- **Programming Languages:** Python, TypeScript (Node.js), JavaScript, Java, C++, C#, PHP, SQL, NoSQL, HTML, CSS
- **Databases:** Postgres, PostGIS, MongoDB, DynamoDB, OpenSearch, Apache Solr
- **Frameworks & Libraries:** ReactJS, Express, CDK, REST, GraphQL, Bootstrap, MUI
- **Tools:** Visual Studio, VS Code, AWS (EC2, IAM, Lambda, CloudFormation, SQS, EventBridge, DynamoDB, etc.), Office Suite, Active Directory, VMWare, Eclipse, Jira, DataGrip, Docker, Github, Gitlab,
- **Operating Systems:** Windows, Mac, Linux, Android, Windows PE, UNIX
- **Other:** CI/CD pipelines, SCRUM methodology, software compliance, cybersecurity

Education

- Bachelor (Honours) of Science in Computing / Computer Game Development
 - University of Central Lancashire, 2014 – 2018
- Software Development Level 3 Extended Diploma
 - Peterborough Regional College, 2012 – 2014
- IMIAL Diploma in Vehicle Fitting Principles (Level 2)
 - University Academy Holbeach, 2011 – 2012

Work Experience

- **Full stack software developer, Combase, Aug 2022 – Present**
 - Developing Backend APIs using TypeScript (Node.js), PHP, and Python, with expertise in REST and GraphQL.
 - Building frontend user interfaces using ReactJS and Typescript.
 - Skilled in managing databases, including MongoDB and Postgres (including PostGIS).
 - Proficient in AWS services such as EC2, Lambda, DynamoDB, Cognito, SQS, IAM, CloudFormation among others.
 - Experienced in designing and implementing new features for software systems.
 - Adept at maintaining and troubleshooting existing software.
 - Proactively identifying and addressing security vulnerabilities.
 - Working within a SCRUM oriented team
 - Implemented AI-driven metadata extraction and OpenSearch indexing
- **Desktop Support Analyst, Centorrino Technologies, Mar 2022 – Aug 2022**
 - Providing day-to-day computer and laptop support for both staff and students.
 - Demonstrated expertise in Active Directory management.
 - Proficiency in managing Apple School Manager, Jamf, and Mosyle systems.
 - Effective troubleshooting and maintenance of Office 365, Windows 10, Windows 11, and Windows server environments.
 - Offering desktop support via phone and providing remote assistance.
 - Efficiently managing security access across two campuses.
 - Implementing cutting-edge technologies across multiple campuses.
 - Creating and maintaining comprehensive documentation for new and existing procedures.

- **Internal Sales, John R Turks (Rexel Group), Aug 2020 – Mar 2022**
 - Staying updated on emerging technologies in the electrical industry to provide informed recommendations to electricians.
 - Assisting electricians in locating specific items required for their projects.
 - Efficiently processing orders through phone, email, or in-person interactions, and arranging for pickup or on-site delivery.
 - Managing procurement of large quantities of stock for the store or trade companies.
 - Collaborating with tradesmen and suppliers to prepare job quotations.
 - Responsible for stocking shelves and performing basic warehouse maintenance tasks.
- **Assistant Supervisor/Santa, Scene to Believe, Oct 2019 – Dec 2019**
 - Account for daily profits, manage payments, supervise sales staff, and handle customer interactions.
- **Sales Assistant, GAME, Oct 2018 – Jan 2019**
 - Assist customers with tech and game queries, promote offers, and process transactions at the till.
- **Software Developer, Fujitsu Technology Solutions, Aug 2016 – Jul 2017**
 - Conducting QA testing on computer systems.
 - Engaging in scripting and software development tasks.
 - Collaborating within a SCRUM team to deliver projects.
 - Troubleshooting server and network issues.
 - Performing hardware maintenance and upkeep.
 - Creating software diagnostic tools for the product lifecycle.

Projects & Portfolio

- **AI-Driven Metadata Extraction & Search Indexing:** Designed and implemented a system using AI and language models to extract metadata from files and index them into OpenSearch. Enabled advanced search capabilities and streamlined information management across distributed systems.
- **Multi-Site Authentication Server:** Built a secure authentication system supporting multiple sites and user roles. Managed frontend, backend and AWS infrastructure deployment.
- **Configurable Data Automation Pipelines:** Created custom automation systems for ingesting, transforming, and distributing data from central sources. Enabled scalable and flexible data workflows across teams.
- **GOAP AI Agent for Game Simulation:** Developed a Goal-Oriented Action Planning algorithm that allows game agents to dynamically pursue objectives based on environmental conditions and available actions. Demonstrates strong algorithmic thinking and AI design.
- **Tetris & Minesweeper AI (Windows Console):** Built classic games in the Windows console using C++, including an AI solver for Minesweeper. These projects showcase low-level programming skills and logic-based automation.
 - <https://www.youtube.com/watch?v=DA68awckijw>
 - <https://www.youtube.com/watch?v=cdOt7eaQOtY>
- **Robot Arm Controlled via Xbox 360 Controller:** Programmed a Raspberry Pi microcontroller to interpret Xbox 360 controller input and control a robotic arm. Integrated hardware and software for real-time control.