

## Professional Experience

### Software & Power Platform Developer

Manchester, UK

Sept 2024 – Present

#### WM Reply

- A power platform and software developer, engineering a plethora of solutions within the Microsoft eco-space, becoming proficient with tools like Azure, SharePoint and Dataverse.
- An example of my duties was creating an Azure function app in .NET using C# to more efficiently alter and analyse CSV files decreasing processing time by an average of 10 minutes, allowing to save expenses and purchasing greater licences
- Another is, I created an Office Script for MS Excel using TypeScript allowing the HR department to scrape and analyse business data, allowing full automation of the whole process, saving the HR department entire days when building company reports.

### Sales Agent

Manchester, UK

Feb 2021 – Aug 2021

#### Carole Nash

- The high stress quick paced work environment enhanced my ability to remain calm in intense environments
- To achieve and surpass KPI's set, I honed strong decision-making skills, deciding what features of the insurance plan to elaborate on to entice the customer.

## Projects

### AI/ML Rental Peer-to-Peer Market Website [RentBie.git](https://RentBie.git)

Python, TypeScript, NEXT.js

- A website designed to host items for rental purposes bought and listed by users of the website.
- Using a custom-built advanced AI (Listwise Ranking) to recommend which items next that users should rent based previous history achieving a 87% accuracy using test data. The AI was fast, efficient and effective. So efficient I trained the model using a CPU.
- Establishing micro-services to connect both the AI model using Flask and the website's backend and frontend using Node.js.
- Front-end of the page was written in REACT.js, using JWT to authenticate and store data about each individual user. Displaying the rentable items using google maps API.
- The main backend was written in Node.js with TypeScript. Configuring the backend using MVC pattern in addition using REST API to communicate with the model and the front-end.

### Client Portfolio Website [JBaker.uk](https://JBaker.uk)

HTML5 & CSS + NEXT.js & TypeScript

- A modern style portfolio website for an Industrial Design Student, showcasing the student's ability and experience.
- To increase visibility and job opportunities I created a website for my client, the website showcases his portfolio whilst having extra features like a downloadable CV pdf and extra links, as a result the client claimed that he received 100% more attention from employers. Landing him interviews with 2 large companies at the forefront of the client's field,
- Due to a quantity and minimum quality constraints of the images, animations and features. The website performance was adversely affected. To solve this problem, file compressions, lazy loading and other various performance enhancing techniques were utilised overall decreasing loading memory by 80% and loading times by 50%.
- Approving of the client's website fondly, I chose to re-create my own website using the clients as a base.

### Robotic AI Grasp Detection Visualisation [AI-Perception](https://AI-Perception)

Python with TensorFlow and Keras

- Developed a video processing pipeline using Mask R-CNN pre-trained on the COCO dataset to detect and segment objects in video frames.
- Implemented Principal Component Analysis (PCA) to compute the principal axes of detected objects, enhancing object tracking and analysis.
- Applied custom visualization techniques, including random colour masks and bounding boxes, to highlight detected objects and their principal axes in video frames.
- Processed and saved video outputs with annotated frames, demonstrating the effectiveness of the

model in real-time video analysis.

## Robot Obstacle Avoidance Algorithm [Obstacle-Avoidance](#)

Java

- Developed a collision avoidance system using Webots simulation software to enhance autonomous robot navigation and safety.
- Implemented reactive control algorithms to enable real-time obstacle detection and avoidance, improving robot efficiency in dynamic environments.
- Utilized sensor data integration for precise environmental mapping and decision-making, ensuring robust collision prevention.
- Due to nature of sonar sensors dynamic manipulation became paramount, to properly follow a wall on 1 sensor was used and the rest were switched off however, to better detect an incoming wall all sensors were used.
- Conducted extensive testing and validation within simulated scenarios, demonstrating the system's reliability and effectiveness in various conditions.

## Lead Developer in Fitness Tracker App

HTML5 & CSS + NUXT.JS + NODE.JS/TypeScript

- I lead in front-end creation using NUXT.JS/VUE.JS and I solely created the backend in NODE.JS with typescript, using many libraries like Sequelize to speed up production time.
- We achieved a 1st class for the project and received individual praise from my examiners for my contribution and effort.
- I gained key leadership and team-working skills as the lead developer, not only guiding the operations of the team, but doing so whilst maintaining an empowering work environment.

## Fraud Detection Predictor

Python

- Code can predict with 97% accuracy if a banking transaction is fraudulent or not.
- To complete project, I understood deeply Random Forest and Isolation Forest Algorithm, to seek anomalies / fraudulent transactions.

## Education

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### University of Liverpool Bachelor of Computer Science (BSC Hons)

- **Grade:** First Class
- **Courses:** Algorithmic Trading, OOP, Algorithms, Operating Systems, Data Structures, App and Web Development, Computer Networks, Functional Programming, Software Engineering, Databases, Data mining, Agile/SCRUM, Robotics, Computer Vision, Cloud computing for E-commerce, Computer Forensics, Robot Perception and Manipulation.

### Xaverian College

- **Grades:** Biology (A STAR), Computer Science (B), Accounting (B).

## Skills

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Languages: TypeScript/JavaScript, Python, SQL, C#, C/C++, R, Java, HTML & CSS, Swift, Dart, Haskell.  
Technologies: NODE.js, Vue.js/NUXT.js, React/NEXT.js, SQL, Git/GitHub, X-Code, Flutter, Android Studio, R-Studio, Neo4J.

## Interests

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- **Non-Fiction Book:** especially biographies of persons I admire, I truly love learning and reading these books aids my conquest of becoming more knowledgeable, my latest is Amy Winehouse
  - **Fitness enthusiasts:** attending the gym regularly has massively increased my discipline, drive, and motivation, which extends with my other goals and ambitions.
  - **Snowboarding:** Of all my reactional activities, I find this the most joyful. I got into snowboarding by saying "yes" to a random sequence of questions, constantly reminding me to keep exploring new avenues in life.