

# Danai Zerai

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## Personal Profile

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With over 9 years in computer science, I've gained technical skills through hands-on experience in software engineering, including developing native, cross-platform, and web applications. My goal is to contribute to a team of developers to create software aligned with your standards across the software life cycle. Alongside technical skills, my previous job and volunteering experiences have enhanced my pragmatism, passion, organization, and structure. I believe this combination of skills makes me a strong fit for your work environment, and I would be a valuable addition to the team.

## Education

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

Sept 2021 - July 2024

• **Grades:** 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**

Sept 2017 - June 2020

• **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.

## Projects

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**AI/ML Rental Peer-to-Peer Market website** [RentBie](#)

Python, TypeScript, NEXT.js

- A website designed to host items for rental purposes bought and listed by users of the website, specifically
- Using a custom-built advanced AI (Listwise Ranking) methods to recommend which items next that users should rent based previous history
- Establishing micro-services to connect both the AI model using Flask and the website's backend and frontend using Node.js.

**Client Portfolio Website** [JBaker.uk](#)

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

- A modern style portfolio website for an Industrial Design Student, showcasing the student's ability and experience.
- Due to a quantity of 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.

**Personal Website** [DanaiZerai.com](#)

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

- The website is mostly self-generated code apart from the CMS which I use Strapi for, utilising recommended SEO and performance techniques for example website is mostly server generated for faster access speeds.
- Deploying the website required great critical thinking skills as, due to the vast array of technologies being used, I had to critically think what features I could keep, features I had to alter, and features that needed removing whilst still meeting the requirements I set.

**Robotic AI Grasp Detection Visualisation**

Python with TensorFlow and Keras

- Using AI (MASK-RCNN) detecting objects, classifying objects, segmentation each pixel for classification and computing & detecting the best location to grasp object

## 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 1<sup>st</sup> 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.

## Run Length Encoding File Compressor

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- The program was designed to compress large files into smaller files without losing any data in the process, using RLE

## Snake Game A.I

Python

- The AI uses Deep Q-learning, a type of reinforcement learning to optimise its decisions through each generation. This project improved my knowledge and understanding of Python and practically the library PyTorch.
- Due to hardware constraints, I couldn't implement many known solutions forcing me to improve my creative thinking and find other alternative approaches that didn't require a GPU.

## 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.

## IOS Geo-Location Mural App

Swift/IOS

- Using an API, the App finds famous murals around town of New Brighton, on the Wirral peninsula, whilst also showing your location and the closest murals to visit. Clicking on the icons of murals shows extra data received from the API.
- Due to the size of the application, my planning and organisational skills had to be immaculate, completing app whilst maintaining my other responsibilities took immense discipline not to procrastinate nor delay set tasks.

## Professional Experience

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### Power Platform Developer

Manchester, UK

[WM Reply](#)

Sept 2024 – Present

- A power platform and software developer, engineering a plethora of solutions within the Microsoft eco-space

### Sales Agent

Manchester, UK

[Carole Nash](#)

Feb 2021 – Aug 2021

- 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.

## 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
  - **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.
  - **Podcasting:** Desiring to begin sharing my knowledge and experience with others, I created a podcast (links to it on [DanaiZerai.com](#)). The podcast has significantly enhanced my communication and writing skills.