

Abbas Sayed

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EDUCATION

The University of Manchester

Bachelor (Hons) of Science in Computer Science (Artificial Intelligence)

Manchester, U.K.

Aug. 2020 – July 2023

SKILLS

Languages: JavaScript, TypeScript, Python, PHP, Java

Frontend: React, Next.js, Bootstrap, Tailwind CSS, HTML, CSS

Backend & Databases: Node.js, Express, Flask, GraphQL, REST API, MySQL, MongoDB

Deployment: AWS, Google Cloud, Docker, Git, GitHub, Heroku, Vercel, Railway

EXPERIENCE

Full Stack Software Engineer

Oct. 2023 – Aug. 2025

Red Dot Distribution

Dubai, U.A.E.

- Engineered end-to-end delivery of a Next.js B2B reseller platform, enabling 1,500+ partners to directly place orders with real-time inventory visibility and streamlined order workflows.
- Shipped 35+ REST API routes with JWT authentication, rate limiting, input validation, and centralized error handling, tested at scale ensuring reliability and security.
- Designed responsive React components styled with Tailwind CSS spanning 13 dedicated pages for inventory, order status, and PO creation, with RBAC-enforced access control, released in cycles via Vercel.
- Implemented concurrent inventory validation using optimistic locking to verify available-to-promise stock before order creation, reducing overselling by 45% during high-traffic periods.
- Integrated Algolia NeuralSearch with custom synonym mapping and attribute weighting, cutting zero-result queries by 66% and improving product discoverability across the partner network.

Software Engineer Intern

June 2022 – Aug. 2022

Red Dot Distribution

Dubai, U.A.E.

- Consolidated SQL queries using optimized JOINS, applied index optimization, and leveraged caching to reduce IOPS and improve response times on read-intensive pages by up to 30%.
- Authored PHPUnit unit and API endpoint tests for core backend modules, increasing test coverage and reducing regression risk across the ticket management system.

PROJECTS

TicketCrusher | *React, Vite, Express, Pinecone, OpenAI API*

Website

- Built a free community tool using React and Node.js/Express enabling California drivers to generate personalized Trial by Written Declaration defense letters, targeting speeding violations which account for roughly 24% of all California citations.
- Engineered a RAG pipeline vectorizing California Vehicle Code sections into Pinecone, retrieving 4 relevant statutes per ticket using cosine similarity and passing them as legal context to OpenAI API for defense letter generation.

Calendar | *React Native, Firebase, Flask, Pandas, NumPy*

Github

- Developed a cross-platform calendar application using React Native and Firebase, to help users analyze their time usage beyond the conventional calendar scope, enhancing time management.
- Enabled users to assign categories to their calendar events and built a dashboard that summarizes time spent per category, helping users gain visibility into how their time is allocated.
- Designed a Google Calendar-inspired UI and integrated Google Calendar APIs to enable bi-directional event synchronization, enhancing adaptability and reducing onboarding friction for new users.
- Implemented a content-based recommendation engine representing events as weighted feature vectors and computing cosine similarity to surface personalized suggestions from users' historical activity.

Hex Game Agent | *Python, Pandas, NumPy*

- Led a team of five to design and implement a Hex game agent using Monte Carlo Tree Search (MCTS), competing against 30+ agents in tournament-style evaluation and achieving a 78% win rate.
- Implemented Upper Confidence Bound (UCB) for node selection and optimized simulation depth to balance exploration and exploitation, reducing computation time per move.
- Integrated opening-move strategies prioritizing central board control, leading to stronger early-game positions.