

Dalex Davis

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PROFILE

Computer Science student with experience in full-stack development, cloud infrastructure and IoT systems. Skilled in React (Next.js), React Native (Expo), TypeScript, Python, Java, C++, and C#. Experienced with PostgreSQL, MySQL, MongoDB, Firebase, etc., alongside backend development using Spring Boot, Express.js, Docker, AWS, Firebase, Amplify, and Appwrite. Currently working as an R&D Software Developer at FreeFlush and as a Computing & Mathematics Lab Demonstrator at Manchester Metropolitan University.

EDUCATION & QUALIFICATIONS

Manchester Metropolitan University - BSc (Hons) Computer Science

2024-Present

First Year:

- Achieved First-Class Honours
- Relevant Courses: Computer Architecture, Databases, Programming, Mathematics for Computing, Team Project, Graduate Skills, Web Development

Second Year:

- First-Class grades in Networks, Algorithms, and Data Structures and Industry Engagement in Semester 1

Manchester Metropolitan University - Computing and Mathematics Foundation

2023-2024

- Achieved First-Class Honours
- Relevant Courses: Computing, Numeracy and Data Analytics, Mathematics, Skills for Higher Education

Bhartiya Vidya Bhavan's Vidya Mandir

2020-2022

- Higher Secondary School Certificate Course: BIO-IP
- Subjects: Biology, Physics, Chemistry, Informatics Practices, English
- Grade: (Overall): 75%

EXTRACURRICULAR

Future Leader Pathway (Rise), Professional Futures Graduate Academy – Manchester Metropolitan University | 2025–2026

Graduated from a one-year extracurricular leadership programme alongside my degree, focused on developing strategic thinking, decision-making, project management, and leadership skills in business and innovation contexts. Collaborated in a multidisciplinary team to deliver a consultancy style project for QSustain, with my team awarded first prize in the programme's final project competition.

WORK EXPERIENCE

Department of Computing & Mathematics Lab Demonstrator | Manchester Metropolitan University

Aug 2025 to Present

- Assist students in understanding programming concepts and principles across multiple languages.
- Support debugging, troubleshooting, and code review during lab sessions.
- Guide best practices in software development and problem-solving approaches.

R&D Software Developer | FreeFlush Water Management

Jul 2025 to Present

- Continuing the project I began during my internship on a part-time basis, collaborating with the team to build out and improve the software infrastructure fully.

- Built and maintained modern web and mobile applications using React (Next.js) and React Native (Expo), integrating AWS and Appwrite services.

R&D Software Developer Internship | FreeFlush Water Management

Jul to Sep (2025)

- Designing and implementing a water waste monitoring system with AWS IoT Core, AWS API Gateway, and AWS Lambda for serverless processing.
- Building a Next.js dashboard for real-time monitoring and analytics.
- Developing a React Native(Expo) mobile application and a main dashboard with React(Next.js) with Appwrite-based auth and backend services

Alongside my formal experience, I actively build and maintain software solutions including openmarker, citynoise, newminal and more.

VOLUNTARY WORK

Course Representative | The Union, Manchester Metropolitan University

Nov 2024 to Present

As a Course Representative for the Computer Science Department, I advocate for my peers by facilitating communication between students and faculty. I provide support, address concerns, and contribute to improving the curriculum and overall student experience, ensuring it meets the needs of my fellow students.

HACKATHONS & COMPETITIONS

Aston Martin F1 & Cognizant Ideathon 2026

- Won 1st Prize in an inter-university competition.
- Developed ACEAS, an agentic customer engagement and acquisition system for the Aston Martin Aramco Formula One Team's marketing team.
- Presented our solution at Silverstone to the Aston Martin Aramco Formula One Team, Cognizant, and participating universities.

Sustainable Computing Hackathon 2026

- Worked solo; won Judge's Awards for Ambition and Implementation.
- Built SwarmTrain, a distributed version of Google Colab for accessible, greener AI training.
- Demonstrated distributed training of a two-layer neural network across multiple devices.

Future Graduate Academy Final Project Competition 2026

- Won First Prize as part of a multidisciplinary team working on a real-world project for Qsustain.
- Researched and developed a sustainable heat management system using waste heat and water resources and how to route it.
- Proposed an implementation strategy based on an existing council-approved planning precedent, enabling faster and more practical deployment.

The BIG Science & Engineering Challenge 2026

- Our product, Commonwealth Games+ app, won First Prize
- The app to boost engagement with live voting and other gamified interactive features.
- Integrated safety tools using crowd data for real-time attendee management.

AWS Breaking Barriers Challenge 2026

- We partnered with UKind Charity to develop Ally, an AI companion app for a VR headset, which reached the finals.
- The app works with VR to deliver virtual therapy sessions using AI, providing a cost-effective solution that reduces long wait times for patients.

Hackathon Record: Participated in 8 hackathons, winning 5, reaching the finals in 1, and failing to win in 2.

PROJECT

CityNoise (Personal Project)

- Mobile app built with React Native (Expo) and TypeScript.
- Backend architecture uses AWS Lambda (serverless compute, Docker), AWS S3 (object storage), and Appwrite for authentication and database services.
- Integrates multiple backend microservices for noise data ingestion, processing, and analytics.

- Currently available on both iOS and Android. You can check out the official website at: <https://citynoisepage.vercel.app/>

Mini Database (Personal Project)

- Mini Database is an ongoing project to build a database system from scratch in C++.
- The project begins at a higher level using standard C++ components, with the goal of eventually implementing a full-featured database entirely from scratch.

Asphira (Personal Project)

- Location-aware mobile app using React Native and geolocation APIs to retrieve crime data.
- Processes API data to calculate real-time safety scores and generate actionable safety recommendations.

Sportscar Hub (Personal Project)

- Backend API built with Java (Spring Boot), containerised with Docker.
- Data ingested from CSV (Kaggle) into PostgreSQL hosted on Railway.
- Backend is deployed as a RESTful web service on Render; frontend interface is built for API consumption and interaction.

NeuroBloom (Microsoft Hackathon)

- Prototype built with Next.js integrating AI APIs to deliver personalised learning resources
- Designed to operate in low-resource environments for inclusive education access.

Simple Stock Management System (CS50 Harvard Online Certificate)

- Web-based inventory tracking system built with Python (Flask), HTML, CSS, and SQLAlchemy.
- Implements stock level monitoring, sales data logging, and basic inventory forecasting.

Other Projects, etc.

I have developed several smaller projects to strengthen my skills, including a Number Recogniser using TensorFlow, an AI Chatbot and a simple Neural Network following Andrej Karpathy's tutorials. Additionally, I created a Weather App using the OpenWeather API and built small React Native apps to improve my mobile development skills. These projects helped me gain a deeper understanding of AI, React Native, and various programming concepts. All my projects(public) are available in my GitHub account

<https://github.com/dalexDavis>

Technical Skills

- **Programming Languages:** Python, Java, TypeScript, SQL, HTML, CSS, C++, C#, bash scripting
- **Frameworks & Tools:** React Native, Expo, Next.js, Flask, SQLAlchemy, Spring Boot, Express.js, Firebase, Appwrite, Docker, AWS, Amplify
- **Databases:** PostgreSQL, MySQL, MongoDB, NoSQL (Firebase, Appwrite, dynamoDB)
- **Version Control & Collaboration:** Git, GitHub, Agile principles

Professional & Transferable Skills

Leadership, Project Management, Research & Technical Planning, Problem-Solving, Communication, Time Management, Adaptability, Attention to Detail, Teamwork & Collaboration, Business Fundamentals.

ADDITIONAL INFORMATION

PMI Project Management Ready certificate (900/1000)

Languages – English (IELTS: 7)

Additional certifications and professional development courses can be found on my LinkedIn profile and personal website.

INTERESTS

Technology, Innovation, Economics, Business, Entrepreneurship, Art, Creativity

REFERENCES

Michael Jones | Manchester Metropolitan University, Lecturer

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