

AALOK MANDAL

PERSONAL PORTFOLIO WEBSITE

- <https://akm164.github.io/My3DWebsite/>

EDUCATION



University Of Wollongong, Wollongong, NSW

Bachelor of Computer Science: Double Major: Software Engineering & Artificial Intelligence & Big Data
[2024 – Present]



UOW College, Wollongong, NSW

Diploma of Information Technology: Equivalent to Year 1 Computer Science, credited toward SENG & AIBD majors
[2023 – 2024]



International Institute of Education, Sydney, NSW

Certificate IV in Information Technology: Foundation in core IT skills; credited toward UOW Diploma of IT
[2022 – 2023]

PROFESSIONAL SUMMARY

Fast-learning Computer Science student at UOW, double-majoring in Software Engineering & Artificial Intelligence & Big Data, with a Diploma of IT and Cert IV (Distinction). Aspiring software developer proficient in Python, having built RESTful APIs with Flask and Django.

I'm passionate about data analytics and full-stack development, work well in teams, and strive to produce creative, superior software. With my expertise in cloud computing, machine learning, and algorithm design, I am excellent at converting challenging specifications into dependable, user-focused apps. Eager to embrace emerging technologies, I'm dedicated to continuous learning and driving impactful results.

SKILLS

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|--------------------|-------------------|--------------------|
| • Python | • SQL | • Cloud deployment |
| • React | • JavaScript | • Django |
| • Next.js | • AWS Cloud tools | • GitHub |
| • Machine Learning | • HTML/CSS | • RESTful API |

WORK HISTORY

 Realta Logic

Software Developer Intern (07/2024 to 11/2024)

Realta Logic, Sydney

- Developed and refactored Python modules for essential application features in collaboration with a senior software engineer.
- Participated in daily stand-ups, planning sessions, and retrospectives while working in Agile sprints with a multi-developer team.
- Authored and maintained unit and integration tests using pytest, boosting code reliability and streamlining the CI/CD pipeline.
- Conducted code reviews and managed feature branches in Git, resolving merge conflicts and ensuring adherence to coding standards.



Sous Chef (08/2022 to 12/2024)

Illawarra Yacht Club, Wollongong

- Collaborated with kitchen and front-of-house teams for seamless service.
- Communicated menu updates and special requests clearly
- Trained and mentored junior cooks on recipes and safety
- Troubleshoot equipment and supply issues under time pressure

KNOWLEDGE & PROJECTS

- **Web Development:** I've crafted 10+ responsive websites with **HTML**, **CSS** and **JavaScript**—including CleanPro, SceneCraft3D, SoftwareEngineerWebsite, MyWebsite3D and Student-Life-Manager. I architected intuitive layouts, ensured cross-browser compatibility, and integrated **CMS APIs** for seamless user experiences.
- **Vue.js & Mobile Apps:** Using **Vue.js**, I created SPAs such as CivilEngineer and Hostel3DWebsite with component-based architecture and **Vuex** state management. I also built two cross-platform mobile apps (CarDetailing, MobileRepairing) via **NativeScript**, integrating camera access, offline storage and push notifications.
- **Python & Game Development:** I developed QuizGame in **Python**, featuring randomized questions, scoring logic and timed challenges. In DuckGame, I combined **Python** scripting with **JavaScript** for sprite animation and collision detection, leveraging **Git** and iterative testing for clean, modular code.
- **Web Application for EMS-based Role Assignment – University of Wollongong. [2025]:**
 - In a team of 4 members, I helped develop a web application designed to streamline event creation, ticketing and attendee coordination.
 - The final end-product was an Event Management System that lets organizers publish events, manage registrations and payments, and send real-time updates to participants—optimizing workflows and boosting engagement.
 - Utilized Flask and SQLAlchemy for RESTful API development, integrated Stripe for secure payment processing, and built a responsive UI with Bootstrap and vanilla JavaScript.
- **Data Science & AI Applications:** In AiMiFraudDetectionSystem, I processed transaction data with **Node.js/TypeScript**, trained anomaly-detection models and exposed RESTful prediction endpoints. I also built QueryVisualizer with **D3.js** for interactive charts and prototyped 3D neural-network visualizations in NeuralIncline-3D using **WebGL**.

- **DevOps & Cloud Solutions:** I wrote CloudDevopsMigrationTool and DevOps-Dashboard in **TypeScript**, automating CI/CD pipelines with **GitHub Actions**. My AWS Cloud Resume project provisioned **AWS S3, CloudFront, DynamoDB** and **Lambda**, delivering zero-downtime updates through an end-to-end workflow.



LANGUAGES

Proficient in English with excellent verbal and written communication skills

