Abdullah Al Amaan

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TECHNICAL SKILLS

Languages: Python, C, C++, JavaScript, TypeScript
Frameworks/Libraries: LangChain, PyTorch, Flask, FastAPI, Next.js, React, Redux, Express, Node.js
Developer Tools: AWS, Git, Docker, SQL, MongoDB, Redis, Postman

EXPERIENCE

Machine Learning Engineer Intern Incoming Fall 2025
Brain Station 23 PLC.

Platform Software Developer Intern Jan 2025 – May 2025
Ford Motor Company

* Automated data-intent configuration in **TypeScript** and **Python** for the Data Collection Platform **(DCP)**, raising system completion by **18%**.
* Expanded unit and functional test coverage in **Jest** and **Python**, improving DCP reliability by **25%**.
* Optimized a thread-safe interface in **C++** for the Enhanced Controller Gateway **(ECG)**, reducing real-time latency by **15%**.
* Implemented multithreaded failover logic in the ECG cloud client using **C++**, cutting API failures by **22%**.

Software Engineer Intern May 2024 – Aug 2024
Brain Station 23 PLC.

* Built website-integrated chatbots using **React** and **FastAPI**, interfacing with backend data via **REST APIs** to enhance client engagement by **25%**.
* Developed and validated **API endpoints** with **Postman**, ensuring reliable data exchange and reducing integration errors by **40%**.
* Implemented **lazy-loading** for the chatbot widget, improving initial page performance and lowering bounce rate by **15%**.
* Translated **Figma** designs into responsive **Tailwind CSS** interfaces, improving accessibility and design consistency across devices.

Software Engineer Intern Mar 2023 – Jun 2023
InterCloud Limited

* Developed **Flask** API endpoints for user account and digital SIM activation, focusing on backend integration, data handling, and debugging.
* Configured **Redis**-based asynchronous tasks and **Python** scripts to manage concurrent activation requests and validate system reliability under load.

PROJECTS

TradeLab ⬤ | *React, FastAPI, Supabase, Gemini API*

* Developed and deployed a full-stack **quant research platform** with **AI-driven analytics** for real-time market visualization, strategy testing, and portfolio risk assessment, improving analysis speed by **30%**.

Filmatic ⬤ | *React, Firebase, Tailwind CSS*

* Built a personalized movie web app with Firebase authentication, dynamic features like **"Watch Later"** and **"Watch Again"**, advanced search/filtering, and responsive UI using **Tailwind CSS**.

EDUCATION

University of Waterloo Waterloo, ON
Bachelor of Applied Science in Computer Engineering *Expected graduation: 2028*

Extracurriculars:

· **WAT.ai** ⬤ | *CBAM-AG-UNet, Swin Transformer, UDKE, Grad-CAM*
· Building **deep-learning models** for retinal image segmentation and disease classification using **PyTorch** and **TensorFlow Lite**.
· Enhancing model interpretability through **Grad-CAM** visualizations for early **diabetic-retinopathy** screening.

Related Coursework: Data Structures and Algorithms, Embedded Microprocessor Systems, Systems Programming and Concurrency, Digital Computers, Digital Circuits and Systems