ABEER MAKIN

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EDUCATION

University of Waterloo   *Waterloo, Ontario*
Honors in Computer Science   *Sept 2024 – Apr 2028*
Courses: C++, Object Oriented Design, Data Structures and Algorithms, Software Engineering

EXPERIENCE

Software Engineer Intern   *Reading, UK*
Wipro Limited   *May 2025 – Aug 2025*
- Collaborated in an **Agile team** to develop an onboarding assistant tool, deployed on **AWS EC2** using Docker containers, with a **React.js** frontend and scalable Java **Spring Boot** backend with **PostgreSQL**, integrating **CI/CD pipelines**, assisting **1000+** new hires in reducing onboarding time by **25%**
- Built an **ML-driven ETL pipeline** to process **500+ equipment maintenance** documents, leveraging **Python** for data analysis and **RAG** to enable natural language queries, reducing maintenance **resolution time** by **40%**
- Developed **functional** and non-functional **requirements** to improve HR systems for employees to query policies.

Software Engineer Intern   *Newbury, UK*
West Berkshire Council   *June 2023 – June 2023*
- Optimized complex **SQL** queries using MS SQL Server and conducted **data cleansing** across relational databases, reducing query **latency by 20%** and reporting inconsistencies in data and improving reporting accuracy.
- Automated repetitive administrative workflows by developing dynamic XML and **JavaScript** document templates, streamlining form generation and report compilation processes, reducing manual processing effort by **40%**

Engineering Intern   *London, UK*
Siemens Engineering   *May 2023 – May 2023*
- Improved control system performance by testing multiple strategies via **automated test pipelines** (Python + Cypress), improving **feedback loops** by **15%** and accelerating test cycle efficiency.
- Built a **real-time dashboard** (Streamlit) for **digital twin** simulations using sensor data, using **MATLAB** simulations for validation, reducing manual performance monitoring from **12 to 2 hours** per week.

PROJECTS

[PulseAI - AI Emergency Assistant (Hack Western)](#) ↗   *October 2025*
C++, Flask, React.js, OpenCV, ElevenLabs, Gemini, Presage, WebSockets
- Developed a **low-latency**, real-time monitoring system processing **5+ vitals**/second via a C++ to Python **TCP bridge** integrating Presage SDK, enabling **sub-5-second** emergency detection and automated 911 dispatch.
- Architected a **multi-server pipeline** with C++ vitals engine, **Flask-powered** AI backend, and **WebSocket enabled** React.js dashboard delivering **live patient metrics** along with medical history.
- Integrated a **conversational AI** companion using **ElevenLabs** and **Gemini** to conduct wellness check-ins and **autonomously** escalating emergencies to family members or 911.

[RiskPulse - Loan Default Prediction](#) ↗   *September 2025*
TypeScript, Next.js, Python, XGBoost, Pandas, Flask, PostgreSQL, Tailwind CSS, Tesseract OCR
- Built a loan default prediction system with **XGBoost**, analysing **150K+** financial records, achieving **78% ROC AUC** and enabling **ML-driven** identification of high-risk loans.
- Developed a full stack platform with **Next.js** frontend and **Python Flask** backend REST API providing real-time risk scoring, **risk simulations**, and **interactive dashboards** to leverage better lending decisions.
- Engineered **feature analysis** and data pipelines with **13 credit risk** factors, enabling **OCR** document processing to generate actionable **portfolio insights**.

SKILLS

Languages: Python, Java, SQL, JavaScript, C++, TypeScript, HTML, CSS, C#
Frameworks: Flask, Spring Boot, FastAPI, MATLAB, Pytorch, TensorFlow, Next.js, React.js, Pandas, NumPy, Langchain, ChromaDB, Scikit-learn, PyTest, Tailwind
Tools: Git, PostgreSQL, AWS, Docker, Visual Studio Code, Microsoft Office, Vercel, GCP, Microsoft Excel, PowerBI

EXTRACURRICULARS

- Content Creator - Managed an Instagram account with 100K+ monthly views