

Abdullah Khalid

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EDUCATION

University of Waterloo

Waterloo, ON

Bachelors of Software Engineering

2025 – 2029

- Relevant Coursework: Multivariable Calculus, Linear Algebra, Advanced Algebra/Proofs, Linux, OOP

TECHNICAL SKILLS

Languages/Frameworks: Python (FastAPI, Flask, PyMAVLINK), C++, TypeScript, Node.js, React.js, Next.js, SQL

AI Tools: Langchain, HuggingFace, OpenAI API, Claude Code, Cursor, Vector DBs (ChromaDB, Supabase)

Cloud: AWS (ECS Fargate, EC2, RDS, S3, CloudWatch, Application Load Balancer), Azure, Vercel

Data/ML Libraries: Tensorflow, Scikit-learn, Pandas, NumPy, Matplotlib

EXPERIENCE

Technical Co-Founder

Jan 2025 – Present

Hadi AI

Waterloo, ON

- Built RAG flashcard system using OpenAI + LangChain, generating flashcards of textbooks in 60-90 seconds.
- Deployed Flask APIs on AWS ECS, reducing p95 latency by 28% while maintaining 99.9% uptime.
- Architected React web app with REST APIs serving 1K+ users for real-time flashcard generation.

Autonomous Software Developer

Jan 2026 – Present

Waterloo Aerial Robotics Group

Waterloo, ON

- Built YOLOv8 vision pipeline in Python for UAV target detection, enabling real-time tracking accuracy 90%+
- Implemented RANSAC wall detection using OpenCV and NumPy, improving obstacle mapping accuracy by 30%
- Developed FRD coordinate conversion module in Python, reducing navigation drift by 25%

Full-Stack Developer

Sep 2025 – Jan 2026

UW Orbital Design Team

Waterloo, ON

- Automated payload creation/deletion with Python + FastAPI, cutting processing time 65% and errors 80%.
- Built OAuth2 auth with callsign verification via GovCan HAM DB, enabling admin access, cutting fraud 75%.
- Reduced system latency by 28% via AWS EC2/RDS deployment and database query optimization.

Machine Learning Engineer

May 2025 – Aug 2025

Inspirit AI

Remote

- Trained PyTorch cancer-cell classifier enabling automated screening workflows across 50+ cases.
- Increased model F1 score by 18% using Optuna tuning and systematic feature optimization methods.
- Built preprocessing and feature pipelines in Python, reducing training noise by 30% overall.

PROJECTS

Video2World VR | *Three.js, Mapbox, Gemini API, Web-XR*

Jan 2026

- Built WebVR environments using Three.js and Web Audio API, rendering immersive 360° scenes
- Optimized VR panorama pipeline in React + Three.js, reducing scene load latency by 40%

TensorRT BenchLab | *Python, CUDA, NVIDIA TensorRT, NVML*

Feb 2026

- Built distributed inference benchmark platform using TensorRT and CUDA, improving latency up to 6x.
- Designed GPU runner with NVML telemetry sampling, correlating utilization with 5–8x throughput gains.

Exoplanet Detector | *Python, Tensorflow, Pandas, NumPy*

Jan 2026

- Trained and tuned a CNN using Tensorflow, achieving 97% accuracy for exoplanet signal classification tasks.
- Improved minority-class recall by 21% using SMOTE and class-weighted training methods.

OrbitLock Autonomy Stack | *Python, PyMAVLink/MAVLink, IPC Queues (QueueProxyWrapper)*

Sep 2025

- Built multi-process autonomy stack in Python, coordinating 4 workers for real-time drone control.
- Maintained link health via MAVLink HEARTBEAT, detecting disconnect after 5 misses in < 5s reliably.

COMPETITIONS

CalHacks, Hack the North, UoftHacks, Hack the Valley, Hackhive, DeltaHacks, GenAI Genesis, DECA