

Khashayar Azad

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PROFESSIONAL SUMMARY

Results-oriented professional with experience in model optimization, large-scale data processing, and algorithm development. Proficient in industry-standard programming languages and experienced with AI libraries and frameworks. Seeking a challenging role in a collaborative environment where I can apply my skills to develop innovative solutions.

EXPERIENCE

Research Assistant Jan 2021 – Sept 2025
McGill University – Cardille Lab Montreal, Canada

- Created a benchmark dataset and evaluation framework to assess the geospatial reasoning capability of foundation models.
- Designed and implemented supervised and unsupervised land cover classification algorithms inspired by Bayesian methods.
- Developed a robust data pipeline to process and persist terabytes of global satellite imagery for lake analysis.
- Implemented an Extended Kalman Filter to track and predict satellite imagery values, applying optimization techniques to fine-tune algorithm parameters.
- Containerized and deployed web applications and databases on self-hosted servers.
- Built user interfaces to support research applications and enhance usability.

Full-Stack Software Developer Intern Sept 2022 – Apr 2024
Genetec Montreal, Canada

- Contributed to the development of a cloud-based SaaS application using Microsoft's tech stack.
- Developed front-end features with Angular and back-end microservices with .NET Core.
- Investigated and resolved bugs, wrote quality code following CLEAN architecture principles, and implemented unit and integration tests.
- Led a prototype project to migrate an active microservice database to MongoDB, leveraging optimized indexing to improve performance.

EDUCATION

University of Toronto Expected Dec 2026
Master of Science in Applied Computing – AI Concentration Toronto, Canada

- Courses (ongoing):** Neural Networks and Deep Learning, Causal and Moral Reasoning with LLMs, Vector Databases and Unstructured Data Query Processing.

Concordia University Jun 2025
Bachelor of Engineering, Software Engineering | GPA: 4.18/4.3 Montreal, Canada

- Courses:** Machine Learning, Data Structures and Algorithms, Computer Networks.

PROJECTS

Extended Kalman Filter Optimization for Satellite Imagery | *Python, PyTorch, Google Earth Engine*

- Implemented an Extended Kalman Filter to continuously track satellite imagery values.
- Optimized filter parameters using gradient-based methods, significantly improving prediction performance.

Transferability Analysis of CNN Models | *Python, PyTorch*

- Implemented and trained a ResNet-based CNN to classify colorectal and prostate cancer images.
- Conducted feature transferability analysis to adapt the trained model to animal face classification.

SKILLS

Languages: Python, TypeScript, SQL, C#

Frameworks & Tools: React/Next.js, Google Earth Engine, Node.js, .NET Core, Angular

Databases: PostgreSQL, MongoDB

DevOps & Systems: Docker, Git, Linux, Cloud-based Deployment

Core Skills: Machine Learning, Model Optimization, Algorithm Design, Full-Stack Development

LANGUAGE PROFICIENCY

English: Fluent, **Persian:** Native, **French:** Intermediate