Khashayar Azad

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EDUCATION

Concordia University, Montreal, QC — 2021 – Summer 2025
Bachelor of Engineering, Major in Software Engineering — **4.16 GPA**

John Abbott CEGEP, Montreal, QC — 2017 – 2021
Computer Science Technology (Career Diploma)

WORK EXPERIENCE

Research Assistant — Jan 2021 – Present
McGill University – Cardille Lab

- Developed a robust data pipeline which processed terabytes of global-scale satellite imagery
- Implemented an Extended Kalman Filter to keep continual track of the expected values of satellite imagery
- Configured and managed a web server that hosts multiple research applications
- Hosted a high-volume database containing terabytes of lake observations
- Creating user interfaces for algorithms focused mainly on land cover change detection
- Analyzing and optimizing algorithms using various techniques, including machine learning

Full-Stack Software Developer Intern — Sept 2022 – Apr 2024
Genetec

Contributed to the development of a cloud-based SaaS application using mainly Microsoft's tech stack. Tasks included:

- Front-end development (Angular)
- Back-end development of microservices/REST APIs (.NET Core)
- Bug investigation and fixes
- Writing quality code following the CLEAN architecture
- Unit and integration testing

Special Project:

Led a prototype to migrate an active microservice's database to MongoDB, leveraging NoSQL benefits and optimized indexing to boost data handling and performance.

RESEARCH PUBLICATIONS

Flores-Anderson, A. I., Cardille, J., Azad, K., Cherrington, E., Zhang, Y., & Wilson, S. (2023). Spatial and temporal availability of cloud-free optical observations in the tropics to monitor deforestation. *Scientific Data*, *vol. 10,* pp. 1-10, Article 550. *(Peer-reviewed)*. DOI: 10.1038/s41597-023-02439-x.

SKILLS

TECHNICAL

- Python
- Google Earth Engine
- MongoDB
- React/NextJS
- C#/.Net
- Node.js
- Git
- Docker
- Linux

INTERPERSONAL

- Strong Communication
- Time Management
- Analytical Skills
- Critical Thinking

PROJECTS

Extended Kalman Filter Optimization for Satellite Imagery

The project involved implementing an extended Kalman filter using the Google Earth Engine API to predict satellite imagery values with a higher-order harmonic function. The parameters of the filter were optimized with PyTorch, significantly improving performance. The code is available on my GitHub profile.

Transferability Analysis of CNN Models

I developed a ResNet-based convolutional neural network to classify colorectal and prostate cancer images and conducted feature transfer analysis to apply the trained model to animal face classification.

LEADERSHIP EXPERIENCE

Director of Logistics May 2022 – Nov 2022
HackConcordia

As the Director of Logistics for HackConcordia, I organized essential supplies and resources to ensure a smooth, enjoyable experience for all participants in Montreal's largest annual hackathon, "ConUHacks."

AWARDS AND HONORS

Dean's list – Concordia University 2021 – 2024
Recognized for outstanding academic performance with a GPA of 3.75 or higher.

Top 3 Finalist – ConUHacks Hackathon 2024
Awarded 3rd place among 140+ projects for developing an innovative gesture-controlled video game using computer vision models.

LANGUAGES

English **Persian**
French

GitHuB

github.com/khashazad