Moetaz Mohamed

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EDUCATION

Concordia University   **Montreal, QC**
Bachelor of Computer Science Co-op. GPA: 4.05   *September 2020 – December 2024*
- 4x Dean's List (achieved an annual GPA higher than 3.75)
- Gerald, Maria, and Georginia Daoussis Scholarship (reward for academic excellence in 2020-2021)

SKILLS

Languages: English (Fluent), Arabic (Fluent)
Programming: C#, C++, Java, Typescript, Python, MySQL, HTML, CSS
Frameworks/Libraries: ASP.NET, Angular, React, Node.js, Nest.js, PyTorch, TensorFlow, Dask, Spark

EXPERIENCE

Full Stack Software Developer Intern
Genetec – Unification Team, Montreal, QC   *May 2024 – December 2024*
- Contributed to development of web application for video surveillance, license plate recognition,and access card management
- Utilized Angular NX and NXGS state management for the front-end and C# .NET 8 for the back-end.
- Optimized E2E testing pipelines with additional virtual machines and agent pools, reducing test wait times by 75%.
- Developed enhanced license monitoring features, allowing users to track real-time hit events, street traffic, and delete events, improving usability and control

Full Stack Software Developer Intern
Genetec – AutoVu, Montreal, QC   *January 2023 – April 2024*
- Contributed to the development of a microservices-based cloud platform on Microsoft Azure.
- Developed and implemented features on the application's back-end using .NET Core/C# and front-end using Angular.
- Applied service bus messages and REST APIs for seamless integration and communication among services.
- Ensured high code quality through active participation in code reviews and adherence to strict unit and integration tests.

Teaching Assistant - Object Oriented Programming Java
Concordia University,Montreal QC   *September 2024 - December 2024*
- Lead tutorial session for over 50 students, providing support on course material and assignments
- Explain core concepts of object-oriented programming including arrays, 2D arrays, data types, loops, and object-oriented principles like classes.

PROJECTS

Library Seat Availability System Github Demo   *September 2024*
- Designed an IoT system using TTGO ESP32 boards with pressure sensors to monitor real-time seating occupancy in libraries
- Built a web interface with Angular 16 and developed the backend using NestJS integrated with MongoDB for data storage.
- Implemented WebSocket APIs for live updates and ensured efficient communication between devices and the server.

Gesture-Controlled Shooter (Winner in ConUHacks Hackathon) Github Demo   *January 2024*
- Developed a Harry Potter-inspired game using Unity and C# as part of the Beenox challenge in Quebec's largest hackathon.
- Integrated Python-based hand gesture recognition, enabling real-time interaction by linking it to Unity via sockets.
- Delivered an engaging gaming experience under tight deadlines, earning recognition for creativity and technical excellence

Robust Image Classification on Noisy CIFAR-10 Dataset Github   *September 2023*
- Developed three Convolutional Neural Network (CNN) models designed to mitigate label noise in the CIFAR-10 dataset.
- Implemented Kaiming and Xavier initialization techniques to enhance network performance and stability.
- Utilized advanced loss functions Symmetric and Reverse Cross Entropy for effective training in high noise conditions.
- Integrated Active Passive Loss (APL) to combine robust loss functions, achieving enhanced accuracies on all noise levels.

PUBLICATIONS

SAM-Guided Mask Sampling for Efficient and Generalizable MIL Classification of Pathology Slide   *In Review*
- Collaborated closely with Professor Mahdi Hosseini and his PhD student Youssef to develop a novel innovative approach to enhance tissue segmentation and extraction for cancer diagnosis and detection.
- Used a CLAM-based tissue extraction algorithm combined with the Segment Anything Model (SAM) for segmentation.
- Improved the efficiency and accuracy of WSI analysis in comparison to traditional vanilla griding techniques.