Artin Molaei-Forouhar

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Education

University of Toronto, St. George Campus — Toronto, ON
Bachelor of Computer Engineering & PEY — *Sep. 2022 – Present*

Current Status: — CGPA: 3.94
Second-year undergraduate student — *Expected graduation year: 2026*

Experience

Sales Associate — August 2022 – September 2022
Canadian Tire — *Richmond Hill, ON*

- Engaged with customers, understood their needs, and provided knowledgeable assistance in selecting the right houseware products.
- Demonstrated efficient inventory management by receiving, unpacking, and labeling merchandise, and accurately updated stock records.

Programming Lead — October 2021 – June 2022
Alexander Mackenzie High School Robotics Club — *Richmond Hill, ON*

- Led Java development for the club's programming division, overseeing all aspects of the Robot's programming.
- Self-studied the FIRST Robotics Competition Control System and taught members Java, Visual Studio Code, and WPILib, while managing and supervising the programming team, ensuring effective execution of tasks.

Math and French Tutoring — October 2021 – April 2022
Alexander Mackenzie High School Peer Tutor Program — *Richmond Hill, ON*

- Mentored and provided in-person extra help to students who required aid with homework & assignments.
- Produced detailed lesson plans to help prepare students for upcoming tests.

Projects

Hand Gesture Recognition | *Python, PyTorch, Matplotlib, CNNs, Transfer learning* — Status: *Completed*

- Designed and implemented a high-performance Convolutional Neural Network (CNN) architecture utilizing convolutional, pooling, and fully connected layers.
- Utilized backpropagation with a cross-entropy loss function and SGD with momentum optimizer to train the CNN model effectively.
- Conducted extensive hyperparameter tuning, optimizing batch size, learning rate, and number of epochs to achieve superior accuracy during extrapolation.
- Incorporated transfer learning by leveraging pre-trained parameters from the torchvision AlexNet model, enhancing the testing and validation accuracy of the custom-designed CNN to surpass 97%.

Engineering Strategies and Practice I & II | *Fusion 360, Project Management* — Status: *Completed*

- Led and coordinated ESP I & II projects, ensuring successful completion of necessary deliverables.
- Modeled a 3D prototype of a redesign for Sidney Smith building's east facade.
- Designed a precise 3D model for a wooden bridge for implementation at Bruce's Mill Conservation Park.

Rubik's Cube Program | *Java* — Status: *Completed*

- Developed a program that allows users to interact with a virtual Rubik's cube in a 3D environment.
- Utilized various 2D Java libraries and advanced mathematical & programming algorithms to create an immersive 3D space. Project is available at: https://artinmolaeiforouhar.itch.io, along with another game I made.

BioBlender | *Android Studio, Chaquopy Python SDK, UofTHacks X, Serp API, OpenAI* — Status: *Completed*

- Co-developed an android app that generates a unique animal using algorithms involving Openai API to help process the traits & characteristics of two input animals, and then outputs a resulting image using Serp Api.
- Diligently distributed tasks within the 36 hour time constraint, and synchronized progress using Git.

Technical Skills & Certifications

Languages: Java, Python, C#, C, HTML/ CSS/ JS, Matlab
Tools: Git, Fusion 360, Google Colab, Visual Studio Code, IntelliJ, Eclipse, Unity, Filmora, Android Studio
Libraries: Pandas, NumPy, Matplotlib, PyTorch, PyGame, Tensorflow, VS-WPILIB, Pillow
Certifications & Awards: Certified Java Developer, Distinction in CCC Senior Div, CS Award (Top Student Gr.12)