Ali Goldani

(825) 594-3840 | goldani.ali@gmail.com | galiold.github.io | LinkedIn | GitHub | Montréal, QC

Education

M.Sc. Neuroscience - *University of Lethbridge, Canada* Jan. 2022 - Dec. 2023
Thesis: *Synthetically generated cow (Bos taurus) provides data for gait analysis in feedlot*
Supervisors: *Dr. M. H. Mohajerani, Dr. I. Q. Whishaw*
GPA: 4/4

B.Sc. Computer Engineering - *Ferdowsi University of Mashhad, Iran* Sept. 2016 - Sept. 2021
GPA: 17.25/20

Work Experience

AR/ML Engineer - *Neurocage Systems Ltd.* Jan 2024 - Now
- Working on synthetic data generation for deep learning in analyzing cattle behavior, using this data to fine-tune models for pose estimation increased model performance on real-world data without the hassle of recording more data
- Working with Blender, Unreal Engine, PyTorch

Database Engineer - *PART Software Group* Sept. 2019 - Jan. 2020
- Optimized commonly used libraries used to aggregate data which reduced algorithm runtime by more than 50%
- Worked on large production level databases to improve indexing and full-text search
- Collaborated closely with a group of 6 people in database team as a part of software development team with more than 50 employees
- Worked with Node.js and PostgreSQL

Full Stack Web Development Intern - *PART Software Group* July - Sept. 2019
- Developed a To-Do management web app in a group of 3. This project portrayed the best practices in software development, such as clean code, unit tests, and code and API documentation
- Placed 1st among group projects and 2nd in individual assessments
- Worked with Node.js, PostgreSQL, and Aurelia

Cofounder, Video Game Programmer, Game Designer - *Artronics Game Studio* Feb. 2017 - Jan. 2022
- Co-created this studio with 5 other members during our bachelors studies in collaboration with Video Game Scientific Association of Ferdowsi University of Mashhad.
- Developed educational games for teaching game development using Unity Egine
- Developed tools for Godot Engine to support Persian Language

Selected Projects

Graphical Data Augmentation for Deep Learning Jan. 2022 - Dec. 2023
- Generated synthetic data using Blender to address data scarcity in Deep Learning
- Worked with CNNs (ResNet) using PyTorch (Python)

Framework for Assessing Alzheimer in Mice Sept. 2022 - Dec. 2023
- Developed a software to assess Alzheimer induced mice. This software gives experimenters the ability to design a range of experiments using a specifically designed configuration language. Experimenters can then analyze the reports generated by this program.
- First version with Unity Engine (C#), Android Studio (Java), and Arduino (C)
- Second version developed with Python, PyQt, and Raspberry Pi

Virtual Mirror March - Sept. 2021

- Participated in developing a web application for real-time testing of cosmetic products online
- Implemented multi-threading and optimizing algorithms in a pipeline that allowed light weigh application of multiple filters on webcam input in real-time.
- Used DLib and OpenCV (Python)

Kingdom Hero (Mobile Game) Aug. 2019 - April 2020

- Developed back-end and database (Node.js and Postgres) and client interaction (Unity Engine, C#)
- Associated with Unbound Game Studio to publish the game on Google Play

"Throw the Birds" Educational Game Sep. - Dec. 2018

- Designed a game which employed XBox Kinect's camera as the controller for teaching the Applications of Computer Vision (Unity Engine, C#)
- A demo of the result can be found at the projcet's GitHub Page

Skills

Programming Languages	Python, C#, C++, Java, Node.js, familiar with GoLang
Scientific Toolsets	Tensorflow, PyTorch, NumPy, Pandas, Matlab
DataBases	MySQL, MSSQL, PostgreSQL, MongoDB
Software Development	Familiar with RUP, and UML, Scrum Agile Framework
Game Development	Unity Engine, Unreal Engine, Blender, Node-based programming
Tools	Git VCS, Docker, Perforce, GitHub Projects
Spoken Languages	Persian (Native), English (Fluent - **TOEFL iBT: 114/120, R: 28, L: 30, S: 28, W: 28**)

Honors and Awards

Alberta Innovates Graduate Student Scholarship - *University of Lethbridge, School of Graduate Studies* Jan. 2022

Teaching and Mentorship

Programming and Statistics - *Dr A. Luczak, University of Lethbridge* Fall 22 & Summer 23

- Machine Learning Algorithms

Matlab Workshop - *Dr A. Luczak and Dr. A. Gruber, University of Lethbridge* Spring 2022, 2023

- Machine Learning Algorithms

Artificial Intelligence Fundamentals and Applications - *Dr A. Harati, Ferdowsi University of Mashhad* Fall 2019

- Informed and Uninformed Search Algorithms, Logic, Game Theory

Principles of Database Design - *Dr M. Kahani, Ferdowsi University of Mashhad* Fall 2019

- RDB Design and Management

Advanced Programming - *MS R. Akhondzadeh, Ferdowsi University of Mashhad* Spring 2019

- Object Oriented Programming, Software Design

Fundamentals of Computer and Programming - *Dr M. Nouri Baygi, Ferdowsi University of Mashhad* Fall 2018

- C++ Programming, Algorithm Design

References

Dr M. Mohajerani, Professor of Neuroscience, McGill University, Canada, majid.mohajerani@mcgill.ca
Dr I. Q. Whishaw, Professor of Neuroscience, University of Lethbridge, Canada, whishaw@uleth.ca
Dr A. Luczak, Professor of Neuroscience, University of Lethbridge, Canada, luczak@uleth.ca