YASMIN NIKNAM

AI Researcher & Engineer

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TEACHING AND WORK EXPERIENCE

Research Assistant
Vector Institute
September 2021 – Present | Toronto, ON

- Collaborating in a conference-level video understanding project with a group of data scientists from different universities and companies.

Internship
Mitacs
November 2021 – May 2022 | London, ON

- Resulted in the development of a deep learning model capable of solving real-world problems.

Internship
HARA AI
May 2019 – September 2019 | Tehran, Iran

- Led to the development of a model for retrieving Persian music and songs from various authors.

Teaching Assistant
University of Western Ontario
September 2021 – Present | London, ON

- Teaching lab sessions, grading assignments, proctoring and grading exams for Computer Science Fundamentals I and II.

Teaching Assistant
University of Tehran
September 2018 – January 2021 | Tehran, Iran

- In various courses, I have designed assignments, exams, and projects, graded exams, conducted lab sessions, and managed classes. These include Digital Logic Design, Linear Control Systems, Computer Programming, Digital Signal Processing, Engineering Mathematics, Engineering Probability and Statistics, Communication Systems, and Intelligent Systems.

ACADEMIC RESEARCH EXPERIENCE

Source-free Domain Adaptation for Sleep Staging

- Design and implementation of a model capable of learning from one domain and then performing well in a second domain, called the target domain, without accessing the source domain during training the target domain.

Time-Series Data | Imbalanced Data | Unsupervised Learning | Transfer Learning

TECHNICHAL SKILLS

Java, C/C++, OOP	●●●●●
Python, MATLAB	●●●●●
Pytorch, TF, Keras	●●●●○
OpenCV, Scikit-learn	●●●●○
Weights and Biases	●●●●○
Git, Shell Scripting	●●●●○
Docker	●●●○○
SQL	●●●○○
Elasticsearch, MongoDB	●●●○○
HTML, CSS, Bootstrap, JS	●●●○○

EDUCATION

M.Sc. in Computer Science
University of Western Ontario
September 2021 – Present

GPA: 4/4

B.Sc. in Electrical Engineering
University of Tehran
September 2016 – January 2021

GPA: 18.25/20

Minor Degree in Computer Engineering
University of Tehran
January 2018 – January 2021

GPA: 18.43/20

HONOR AND AWARDS

- Mitacs Accelerate Fellowship of 15K CAD
- The University of Tehran M.Sc. Fellowship Award (exempted from the graduate entrance exam)
- Best Undergraduate Thesis Award from the University of Tehran
- Ranked 8^{th} (among top 10 percent) out of 120 undergraduate students, School of Electrical and Computer Engineering, University of Tehran
- Ranked 111^{th} among more than 200,000 participants in Iranian National University Entrance Exam in 2016
- Member of Iran's National Elites Foundation

Video-Text Retreival for Real-World Video Data

- Analyzing the semantics of multiple events in untrimmed news videos from Thomson Reuters and matching them with their corresponding pertinent captions. (In collaboration with Vector Institute)

Real-World Data | Representation Learning

Vehicle Instance Localization and Counting

- Annotating real-world data for the project using Amazon Mechanical Turk tool and developing a model capable of localizing and counting vehicles in an image taken from a drone

Real-World Image Data | Amazon Mechanical Turk

Cross-Modal Generation

- Producing corresponding audio to a video using state-of-the-art deep learning models and transformers.

Cross-Modal Representation Learning | Pytorch | Generative Models | OpenCV

Image and Video Restoration

- Restoring old photos affected by severe degradation by training two variational autoencoders (VAEs) to construct two latent spaces, one for old photos and one for clean photos.

Jupyter Notebook | Scikit-learn | FFmpeg | Pytorch

Multiple Object Tracking

- Utilizing bounding box regression to predict the position of an object in the next frame in crowded scenes, thereby converting a detector into a tracker.

Pytorch | Image Segmentation | OpenCV

Dialogue Generation

- Generating text files and conversations using RNN, LSTM, and GRU models.

Keras | Natural Language Processing

Price Estimation

- Estimating cellphone prices based on customer data using a regression model.

Real-World Data | Language Data Preprocessing | Scikit-learn

AP Drive

- Developing a web platform called "AP Drive" that allows users to manage their files. The platform's back-end is implemented using AP HTTP.

C++ Object Oriented | HTML | CSS | Bootstrap | JavaScript

SELECTED COURSES

- Advanced Artificial Intelligence
- Artificial Intelligence
- Engineering Probability and Statistics
- Neural Networks
- Brain Inspired AI
- Advanced Programming
- Design Algorithm
- Data Structure and Algorithm
- Unstructured Data
- Digital Signal Processing
- Linear Algebra
- Operating Systems
- AI Ethics

EXTRACURRICULAR ACTIVITIES

Musical Studies

Focusing on a classical piano repertoire for over 10 years

Tedx Keshavarz Boulevard

Working as a member of partnership in Tedx Keshavarz Boulevard.