

Omid Reza Heidari

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EDUCATION

Concordia University , Montreal, Canada Master of Science in Computer Science	2023 Present GPA: 3.43/4.00
Islamic Azad University , Zanjan, Iran Bachelor of Engineering in Computer Engineering	2017 2022 GPA: 3.47/4.00

RESEARCH INTERESTS

Computer Vision; Multimodal Vision-Language; NLP; Retrieval Augmented Generation; Multimodal AI

PUBLICATIONS

2024

- **Omid Reza Heidari***, Maria Siddiqua*, Mennatullah Siam. Pixel-level Self-Supervised Video Understanding. *Work in Progress*
 - **Omid Reza Heidari**, Yang Wang, Xinxin Zuo. Test-time Adaptation in Security X-ray Images Detection. *Work in Progress*
 - **Omid Reza Heidari***, Li Gu*, Jiahao Nick Li*, Yang Wang. Retrieval Augmented Generation for Natural Language Query in Egocentric Videos. *Preparing for CVPR 2025*
- 🏆 Selected as the Best Poster at *Mila - Quebec AI Institute* April 2024
- **Omid Reza Heidari***, Nihan Anam*, Azmine Toushik Wasi*, Taki Hasan Rafi. A Review of Human-Centric Evaluation of Cultural Bias in Indic Languages within LLMs: Rethinking Research Directions. *Submitted to COLING 2025*

2023

- **Omid Reza Heidari**, Ahmadsreza Zakerian Zadeh, Mohsen Dadashi. Assessment of Structural Connectivity and Brain Volumes after tDCS in Stroke: A Machine-learning Method

ACADEMIC EXPERIENCE

Ontario Tech University <i>Research Engineer</i>	Oshawa, Canada (Hybrid) Sep 2024 Jan 2025
<ul style="list-style-type: none">• Conducting biweekly meetings with the supervisor and postdoctoral researcher to discuss papers and plan research goals.• Reviewing and discussing different approaches to improve the performance and accuracy of our methodology.• Implementing state-of-the-art models in PyTorch Lightning and running on Google Cloud Platform(GCP) and Compute Canad(CCDB).	
Hanyang University <i>NLP Intern</i>	Seoul, South Korea (Remote) Jul 2024 Sep 2024
<ul style="list-style-type: none">• Assess cultural, gender, religious and ethnic biases in LLMs, emphasizing underrepresented languages and dialects.• Research regional dialect biases in LLMs; develop evaluation frameworks and assessment methods.• Test LLM performance across dialects and cultures; Prepare a conference paper.	
Concordia University <i>Teaching Assistant</i>	Montreal, Canada Jan 2024 Present
<ul style="list-style-type: none">• COMP 6321 - Machine Learning• COMP 6771 - Image Processing• COMP 353 - Databases• COEN 243 - Programming Methodology I• COMP 248 - Object-Oriented Programming I• COEN 352 - Data Structures and Algorithms• COMP 352 - Data Structures and Algorithms	

Zanjan University of Medical Science
Data Reserach Analyst

Zanjan, Iran
Jul 2022 | Jan 2023

- Conducted research on Machine Learning and Electroencephalogram signals
- Utilized Welch, Convolution, and Fourier transform, to compute connectivity, power, and amplitude

Sharif University of Technology
Teaching Assistant

Tehran, Iran
Sep 2022 | Feb 2023

- CE 717 - Machine Learning

Zanjan University
Teaching Assistant

Zanjan, Iran
Sep 2021 | Jun 2022

- Principles Of Database Design
- Digital Logic Design
- Advanced Programming

SELECTED COURSES

Master's Courses

- Links Between Computer Vision and Language
- Representation Learning
- Statistical Natural Language Processing
- Machine Learning

Bachelor's Courses

- Artificial Intelligence and Expert Systems
- Advanced Database

LANGUAGE PROFICIENCY

IELTS (Academic): 7

Listening: 7.5 | Reading: 7
Speaking: 6.5 | Writing: 6
Test date: Nov 2022

French:

Listening: A2| Reading: A2
Speaking: A2 | Writing: A2

SKILLS

- **Programming Languages** : Python, MATLAB, C++
- **Frameworks**: PyTorch, PyTorch Lightning, Scikit-learn, OpenCV
- **Databases**: MySQL, PostgreSQL, Redis, MongoDB
- **Services**: AWS, GCP, RabbitMQ