Omid Reza Heidari

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EDUCATION

Concordia University, *Montreal, QC*   2023 | Present
Master of Science in Computer Science   GPA: 3.43/4.00

Islamic Azad University, *Zanjan, IR*   2017 | 2022
Bachelor of Engineering in Computer Engineering   GPA: 3.47/4.00

WORK EXPERIENCE

Ontario Tech University   *Oshawa, ON*
Machine Learning Researcher   Sep 2024 | Nov 2024

- Implementing the state-of-the-art models, such as OmniMotion, Real NLP, Betrayed by Attention, and NeRF on Google Cloud Platform and Compute Canada.
- Reviewed and discussed approximately 5-7 research papers per week, analyzing various approaches to improve the performance and accuracy of previous methodologies.
- Enhanced model accuracy for detecting occluded objects by around 7 %.

Hanyang University   *Seoul, KOR*
Natural Language Processing Research Intern   Jul 2024 | Sep 2024

- 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.
- Assess the performance of different LLMs across dialects and cultures.

Zanjan University of Medical Science   *Zanjan, IR*
Data Reserach Analyst   Jul 2022 | Jan 2023

- Conducted research on Machine Learning and Electroencephalogram signals
- Utilized Welch, Convolution, and Fourier transform, to compute connectivity, power, and amplitude
- Applied low-data techniques, such as data augmentation and transfer learning, to prevent underfitting and improve model performance on limited datasets.

ACADEMIC EXPERIENCE

Concordia University   *Montreal, QC*
Teaching Assistant   Jan 2024 | Present

- 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

Sharif University of Technology   *Tehran, IR*
Teaching Assistant   Sep 2022 | Feb 2023

- CE 717 - Machine Learning

Zanjan University   *Zanjan, IR*
Teaching Assistant   Sep 2021 | Jun 2022

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

SKILLS

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

PUBLICATIONS

2024

- **Omid Reza Heidari***, Li Gu*, Jiahao Nick Li*, Yang Wang. Retrieval Augmented Generation for Natural Language Query in Egocentric Videos.

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