AmirHosein Ebrahimi

Ottawa - Canada
amirh.ebrahimi1377@gmail.com Linkdin Github

EDUCATION

B.Sc. of Computer Engineering **2017 – 2022**
Shahid Beheshti University *Tehran, Iran*

- **Supervisor:** Dr. Dara Rahmati
- **Thesis:** Acceleration of biologically inspired neural network. Grade (A+)
- **GPA**: 3.04/4 (15.53/20) - (Last two years of post-secondary, 65 credits): 3.63/4 (17.25/20)

MASc. Biomedical Engineering **2024**
University of Ottawa *Ottawa, Canada*

- **Supervisor:** Dr. Arvind Mer
- **Thesis:** Acute Lung Injury Assessment Using Vision Transformers
- **CGPA**: 4/4

RESEARCH INTERESTS

Bioinformatics	Computer Vision	Computational Pathology
Computational Biology	Vision-Language Models	ML for Omics Data

PUBLICATIONS

Journal Articles and Preprints

- Patrick, B., **Ebrahimi, A. H.**, Visram, A., Mer, A. (2025). Deciphering genomic correlates of differential treatment response kinetics in multiple myeloma. *Clinical Lymphoma, Myeloma Leukemia, 25*(Suppl. 1), S154. DOI
- **Ebrahimi, A.**, Sefat, H. V., Rad, J. A. (2025). Basics of machine learning. In *Dimensionality Reduction in Machine Learning* (pp. 3–38). Elsevier. link
- Kuhar, E., Park, J., Jahandideh, F., Komeili, . . . , **Ebrahimi, A.** (2025). Artificial intelligence-enabled histological analysis in preclinical respiratory disease models: A scoping review. *bioRxiv Preprints*. DOI
- Wu, G., Zaker, A., **Ebrahimi, A. H.**, Tripathi, S., Mer, A. (2024). Text-mining based feature selection for anticancer drug response prediction. *Bioinformatics Advances, 4*(1), vbae047. link
- **Ebrahimi, A. H.**, Vafaei, H., Asghari, M., Rahmati, D. (2023). HA-BSN: Hardware acceleration of bio-SFA and bio-NICA, biological neural networks, on FPGA with HLS. *Neurocomputing*. link

Conference Proceedings

- **Ebrahimi, A.**, Zarei, M. R., Kuhar, E., Mer, A. (2025). From data annotation to AI prediction: Streamlining histopathology analysis in acute respiratory distress syndrome. In *Proceedings of the 38th Canadian Conference on Artificial Intelligence (Canadian AI 2025)* (pp. 219–???). CAIAC. link
- Alipour, S., **Ebrahimi, A. H.** (2024). A new approach for minimum dominating set problem. In *Proceedings of the 3rd ACM International Conference on Information and Knowledge Management*. link
- **Ebrahimi, A. H.**, Vafaei, H., Rahmati, D. (2022). Estimating stochastic model's parameters using residual neural networks. In *Proceedings of the National Informatics Conference of Iran (NIC)* (p. 128). link

Posters and Presentations

- Patrick, B., **Ebrahimi, A.**, Visram, A., Mer, S. (2025). Multi-omic insights into the genetic correlates of the differential treatment response kinetics effect [Poster presentation]. 22nd Annual International Myeloma Society Conference, Toronto, Ontario, Canada.

WORK & RESEARCH EXPERIENCE

Mer Lab | Research Assistant **Ottawa: 2023 – present**

- I contributed to groundbreaking research at Mer Lab, a leading computational biology and machine learning group affiliated with the University of Ottawa.

IPM | Research Assistant **Tehran: 2019 – 2024**

- As an undergraduate, I joined this research institution willingly to expand my expertise of machine learning and deep learning. Later, I completed my internship there and remained as an AI researcher, collaborating with other AI researchers on various projects.

HUMA | Back-end developer **London: 2023 – 2024**

- I worked as a Back-End Developer and Solution Specialist at Huma, contributing to innovative healthcare applications for remote patient monitoring, improving outcomes and accelerating research.

CMP Lab | Developer **Tehran: 2021 – 2023**

- I worked as a programmer at CMP Lab, Shahid Beheshti University - Institute for Cognitive and Brain Sciences (ICBS), developing psychological experiments.

TECHNICAL SKILLS

Programming Languages

- **Python**: Expertise in Python-based machine learning and data science libraries, including Keras, TensorFlow, PyTorch, Scikit-learn, SciPy, PyG (PyTorch Geometric), and FastAI.
- **C/C++**: Proficient in performance-oriented programming with libraries like Armadillo and OpenMP for high-performance computing tasks.
- Additional Experience: Java, Golang, MATLAB, and R.

Frameworks, Tools, and Libraries

- Machine Learning and Deep Learning: Hugging Face Transformers, PyTorch, TensorFlow, Keras, FastAI, Scikit-learn, and cmdstanpy.
- Data Processing and Automation: Pandas, NumPy, Selenium, and PsychoPy.
- Development and Deployment: Docker, Linux (shell scripting, server management).
- Large Language Models (LLMs): Experience with fine-tuning and deploying pre-trained LLMs using frameworks like Hugging Face.

REFERENCES

Dr. Arvind Mer

- Assistant Professor - Department of Biochemistry, Microbiology & Immunology Faculty of Medicine - Email: amer@uottawa.ca

Dr. Dara Rahmati

- Assistant Professor - Faculty of Computer Engineering and Science Shahid Beheshti University - Institute for Research in Fundamental Science IPM - Email: d_rahmati@sbu.ac.ir

Dr. Kamyar Givaki

- Research Associate, HPC Center, Institute for Research in Fundamental Science IPM - Email: givakik@ipm.ir