

Mojtaba Bahrami

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Research Interests

- COMPUTATIONAL BIOLOGY, BIOINFORMATICS, AND MEDICAL IMAGE ANALYSIS
- MACHINE LEARNING AND DEEP LEARNING IN BIO-MEDICAL APPLICATIONS

Education

M.Sc. in Artificial Intelligence

Tehran, Iran

DEPARTMENT OF COMPUTER ENGINEERING, SHARIF UNIVERSITY OF TECHNOLOGY

2017 - 2020

- Supervised by Prof. Hamid R. Rabiee
- *Dissertation Title:* Batch-Effect Correction in High Throughput Biological Profiling Using Deep Neural Networks
- **GPA: 18.38/20**

B.Sc. in Electrical Engineering

Tehran, Iran

DEPARTMENT OF ELECTRICAL ENGINEERING, SHARIF UNIVERSITY OF TECHNOLOGY

2012 - 2017

- **GPA: 17.62/20**

High School

Zanjan, Iran

NATIONAL ORGANIZATION FOR DEVELOPMENT OF EXCEPTIONAL TALENTS (NODET)

2008 - 2012

- **GPA: 19.60/20**

Publications

- **Mojtaba Bahrami**, Malosree Maitra, Corina Nagy, Gustavo Turecki, Hamid R Rabiee, and Yue Li. "Deep feature extraction of single-cell transcriptomes by generative adversarial network". In: *Bioinformatics* 37.10 (2021), pp. 1345–1351. [DOI]
- Mahsa Ghorbani, **Mojtaba Bahrami**, Anees Kazi, Mahdiah SoleymaniBaghshah, Hamid R Rabiee, and Nassir Navab. "GKD: Semi-supervised Graph Knowledge Distillation for Graph-Independent Inference". In: *International conference on medical image computing and computer-assisted intervention*. Springer. 2021. [DOI]
- **Mojtaba Bahrami**, Mahsa Ghorbani, Yousef Yeganeh, and Nassir Navab. "Intelligent Masking: Deep Q-Learning for Context Encoding in Medical Image Analysis". In: *International Workshop on Machine Learning in Medical Imaging*. Springer. 2022.

Honors & Awards

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| 2019 | Ranked 1st , Nationwide PhD University Entrance Exam in Computer Engineering, Artificial Intelligence | Iran |
| 2018 | Ranked 3rd Among +1,000 Participants , Data Science Challenge known as <i>Deca</i> contest on CTR prediction, held by the Mobile Service Company "Pushe" | Iran |
| 2018 | Selected as a national scientific elite , and the recipient of the grant for graduate studies from the Iranian National Elites Foundation | Iran |
| 2017 | Ranked 8th Among +20,000 Participants , Nationwide MSc University Entrance Exam in Computer Engineering | Iran |
| 2017 | Ranked 4th , Nationwide Olympiad in Computer Science | Iran |
| 2014 | Ranked 4th , Sharif Cup Open Robotics Challenge, Vision League | Sharif University of Technology |
| 2012 | Ranked 65th Among +220,000 Participants , Nationwide BSc University Entrance Exam known as Konkoor | Iran |

Research Experience

Computer Aided Medical Procedures, Technical University of Munich

Munich, Germany

REMOTE RESEARCH ASSISTANT, SUPERVISED BY PROF. NASSIR NAVAB

2021 Jan - 2022 Mar

- Worked on multi-modal medical data analysis using graph neural networks: published in **MICCAI 2021** (selected for Student Travel Award)
- Worked on improving self-supervised learning strategies. We proposed, implemented, and evaluated an intelligent masking in-painting strategy for medical image classification: published in **MLMI 2022**.

School of Computer Science, McGill University

RESEARCH GRADUATE INTERN, SUPERVISED BY PROF. YUE LI

Montreal, Quebec, Canada

2019 Nov - 2020 Dec

- Worked on single-cell RNA-Seq representation learning: published in [Bioinformatics Journal](#)

Data Science & Machine Learning Lab (DML), Sharif University of Technology

RESEARCH ASSISTANT, SUPERVISED BY PROF. HAMID R. RABIEE

Tehran, Iran

2018 - 2019

- Worked on deep video action detection and recognition
- Worked on batch-effect correction of Single-Cell microscopic fluorescent images using Deep Private-Feature Extraction

Work Experience

Ronash Information Technology & Services Co.

DATA SCIENTIST

Tehran, Iran

2021 - present

- Semantic search, classification and near-duplicate detection of Shopify products at Shopgram.io
- Hierarchical product image classification: "training a customized variant of Efficient-Net over 2M images"
- Automatic product description generation: "fine-tuning GPT-3 over a customized description dataset" at Hengam.io

Teaching Experience

Spring 2019	Teacher Assistant for "Statistical Learning Theory" , Prof. Hamid R. Rabiee, Sharif University of Technology
Fall 2018	Teaching Assistant for "Probability and Statistics" , Prof. Hamid R. Rabiee, Sharif University of Technology
Spring 2018	Teaching Assistant for "Probability and Statistics" , Prof. Jafari Siavoshani, Sharif University of Technology
Fall 2015	Laboratory Assistant for "Principles of Electrical Engineering" , Prof. Mashhadi, Sharif University of Technology
Spring 2015	Instructor of Workshop for "Computer Vision Programming" , Vision League, Sharif Cup Contest
Summer 2015	Workshop Instructor for "Computer Vision Programming - OpenCV" , Prof. Aghajan, Sharif University of Technology
Spring 2015	Teaching Assistant for "Computer Vision for Smart Environments" , Prof. Aghajan, Sharif University of Technology
Spring 2015	Laboratory Assistant for "Logic Circuits and Digital Systems" , Prof. Mohammadzadeh, Sharif University of Technology
Fall 2014	Teaching Assistant for "Principles of Electrical Engineering" , Prof. Khalaj, Sharif University of Technology
Fall 2014	Laboratory Assistant for "Energy Conversion" , Prof. Nasiri, Sharif University of Technology
Spring 2014	Laboratory Assistant for "Logic Circuits and Digital Systems" , Prof. Haj Sadeghi, Sharif University of Technology

Related Courses

Selected	Machine Learning (20/20), Advanced Topics in ML (Deep Learning) (18.9/20), Computer Vision (20/20), Probabilistic Graphical Models (17.9/20), Stochastic Processes (19.6/20), Speech Processing (19.2/20), Algorithm Design (18.7/20), Artificial Intelligence (18/20), Digital Communications (18.9/20), Signals and Systems (17.3/20)
Audited	Introduction to Biology, Reinforcement Learning, Information Retrieval, Linear Algebra, Database

Skills

Natural Languages	Persian (native), English (fluent)
Programming	Python, Java, C++, SQL, HTML, Git, Unix, Android
Libraries	PyTorch, Tensorflow, Keras, Pandas, Scipy, Scikit-learn, Spark, OpenCV, MATLAB, Docker, Django
Typesetting	TeX, LaTeX, Microsoft Office

English Language Proficiency

2021	Test of English as a Foreign Language (TOEFL) , Score: 107. Educational Testing Service TOEFL iBT®	Tehran, Iran
2010	Senior Certificate in English , ILI (Iran Language Institute).	Zanjan, Iran