

Armin Moradi (he/him)

Machine Learning Engineer / Data Scientist

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PROFESSIONAL EXPERIENCE

Machine Learning Intern

Jul 2024 – Present

CEIMIA, Montréal, Canada

Quebec's leading organization in the responsible development of artificial intelligence (~10 tech employees).

- Conducting literature review and developed novel metrics for Discoverability in Music Recommender Systems, fairness, and diversity, ensuring alignment with ethical AI principles.
- Collaborating with interdisciplinary teams and refined publicly available datasets, implementing and evaluating prototype-based recommender systems to enhance explainability and mitigate unfairness.
- Documenting research processes, contributing to research articles, and participating in bi-weekly project management meetings and interdisciplinary workshops.

Machine Learning Researcher

Jan 2023 – Present

Mila, Montréal, Canada

- Member of the EQUAL Lab, conducting research on Fairness and Cultural alignment in Recommender Systems
- Leading a project in a team of 3 on Cultural Music Discoverability: led to several oral presentations and a scientific article
- Leading a project on Biases of Conversational Recommender Systems: led to publishing in the ACM RecSys Workshops
- Selected to collaborate with artists in *co-creating with arts and AI* residency to visually represent cognitive sensations through AI generative models

AI Student Researcher (Full-time)

July 2021 – Oct 2021

Technische Universität München, Munich, Germany

- Independently conducted a project on mapping the visual status of robot-assisted ophthalmic surgery to pleasant audio signal for the surgeons
- Adapting Variational Autoencoders to conduct audio-style transfer on MIDI signals while taking musical and informational constraints into account by conducting literature review and utilization of Google Magenta project.

Data Scientist (Full-time)

Jun 2020 – April 2022

Balad Maps (Café Bazaar), Tehran, Iran

Most popular maps and navigation application in Iran with +10 million monthly active users (~80 tech people)

- **Search and Exploration Team Member:** Focused on guiding users to their points of interest through the development, A/B testing, deployment, and maintenance of recommender systems and NLP models.
- **Key Projects:**
 - *Destination Recommenders:* Developed a system that reduced 'navigation start duration' by 18% for the top 25% most-active navigation users.
 - *Auto-Correction Modules:* Improved the click-rate for the 10%-least successful queries by 6%.
 - *Trending Queries Module:* Increased user interactions with the search module by 4%.
- **Database Schema Redesign:** Re-designed the schema to meet the growing demands of data-driven projects, resulting in a 60% reduction in time and energy spent on the top 20 most-repetitive HDFS queries.
- **Volunteer Process Coordinator:** Enhanced development processes, achieving a 27% improvement in user-story prediction accuracy, which facilitated more reliable sprint planning and reduced task retakes by 20%.
- **Interview and On-boarding Process:** Contributed to redefining the Data Science Chapter's interview and onboarding processes, leading to the hiring of four new team members and mentoring two mentees within four months.

Machine Learning (Intern)

Feb 2019 – Mar 2019

Rahnema College, Rahnema, Tehran, Iran

Prestigious technology education center (~200 employees, ~10 mentors, ~25 mentees)

- Selected among 3000 applicants and granted a scholarship for training
- Undergone 200 hours of Machine Learning Theory and Practice. Machine Learning Fundamentals, CNNs, Feature Engineering, Apache Spark, Agile methodology and soft-skills workshops
- Conducted Few-shot [Whale Identification Challenge](#) in a team of 5 ML interns: 74% accuracy (highest among the interns)

EDUCATION

Université de Montréal / Mila Quebec AI Institute

Jan 2023 – Jan 2025

Master of Science – Computer Science (Artificial Intelligence Specialization)

Sharif University of Technology

Sep 2017 – July 2022

Bachelor of Science – Computer Engineering

Thesis: Evaluating the Robustness of DP-SGD Trained Recommender Systems Against Black-Box Inference Attacks

PUBLICATIONS AND TALKS

- [1] **Armin Moradi**, Nicola Neophytou, and Golnoosh Farnadi. "Advancing Cultural Inclusivity: Optimizing Embedding Spaces for Balanced Music Recommendations". In: Submitted to ACM RecSys'24. 2024.
- [2] **Armin Moradi** and Golnoosh Farnadi. "Tidying Up the Conversational Recommender Systems' Biases". In: Knowledge-aware and Conversational Recommender Systems (KaRS) Workshop at ACM RecSys'23 - Oral Presentation.
- [3] Oral Presentation. "A Tutorial on Fairness in Machine Learning". In: Trustworthy and Responsible AI Learning (TRAIL) program of Mila's AI for Humanity department. 2023.
- [4] Oral Presentation. "A Tutorial on Fairness in Machine Learning". In: Johannes Kepler University, Linz, Austria University. 2024.

SKILLS

Programming Languages: Python, C, Java, Scala | **Machine Learning:** PyTorch, TensorFlow, Keras, TFX, Scikit-Learn, OpenCV, NumPy, Pandas | **Engineering:** Docker, Apache Airflow, Apache Spark, Version Control (Git) | **Data Visualization:** Apache Superset, Metabase | **Selected Courses:** Responsible AI, Reinforcement Learning, Representation Learning, Statistical Machine Learning, Advanced Information Retrieval | **Languages:** English (C2), French (B1), German (A2), Persian (Native), Familiar with Arabic, Turkish

HONORS AND AWARDS

- 2024
 - Mitacs Excellence Scholarship (8 Units of \$15,000 CAD each) for conducting the project "Interdisciplinary design of music recommender systems for the enhancement of discoverability of under-represented music cultures".
 - Residency grant of [co-creating with arts and AI](#): \$5,000 CAD
 - Bourse en intelligence artificielle des ESP, Université de Montréal: \$5,000 CAD
 - Travel Grant, Responsible AI conference track, Canadian AI 2024 conference, NSERC: \$1,160 CAD
 - Travel Grant, 2nd IEEE Conference on Secure and Trustworthy Machine Learning: \$1,000 USD
 - Scholarship for Foreign Master's Students, DIRO, UdeM: \$4,000 CAD
- 2023
 - Ministry of Higher Education Scholarship for International Students, DIRO, UdeM: \$3,000 CAD
 - Full-funding for Research Master's Studies, Mila Quebec AI Institute: \$27,000 CAD per year (2 years)
- 2021
 - International Undergraduate Excellence Awards, Chair for Computer Aided Medical Procedures, Technical University of Munich: €5,000
- 2017
 - Grant for Undergraduate Studies for Outstanding Academic Success, National Elites Foundation, Iran
 - Ranked 24th nationwide (~200k participants) in Iran's Nationwide Mathematics University Entrance Exam; 1st among 40k in underdeveloped regions

HOBBIES

- Improvisation and Composition in Jazz and Persian Music
- Street Photography (unsplash.com/@armor9), Basketball, Long Runs and other randomly connected stuff.