Mojtaba Moattari
For Career: passionate in Cognition & AI for Social Good /// Personally: interested in mindfulness & exploring nature

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PERSONAL INFORMATION
WORK EXPERIENCE

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Colors Instruction
Skillful
Innovative
Creative
Perceptive

2020– 2024 (**III**)	2018 – 2020 (**II**)	2011 – 2015 (**I**)
Data Analysis/Explanation (Lab head)	Research Scientist	Software Technician
Intern: **Multimodal** Classifier/**Interpretation**	**Deep Learning** for CVPR	**C++** Programmer & Teacher
Patient Note Assessment (Pfizer, Medlior Ltd)	Iterative Data **Aggregation**	Microcontroller Projects
Develop a **dashboard** that **visualizes** data	Deploy **Auto-ML** pipeline	**Manage** student projects
Queen's U– ON– Canada	*Shiraz–* *Iran*	*Shiraz– Iran*

General Purpose (3yr)
Educational Tech (12yr)
Programming Languages
Recommendation Systems (4yr)
Generative AI (4yrs)
Machine Learning (12yr)
Image Processing (**I**, **II**)
Multimodal Fusion (**III**)
Explainable AI (**III**)
Database/ Deployment (4yr)
Natural Lang. Process. (7yr)
Visualization Tools (7yr)
Graph Embedding (**II**, **III**)
Libraries & Platforms (7yr)

Corel Draw, Photoshop, VS Code, **PyCharm**, MS Word, Excel, PowerPoint
Knowledge Tracing (**III**), **Learning Analytics** (**II**), Preference Segmentation (**I**), Cohort stratification
Python (9yr), **C++** (6yr), C# (4yr), Java (4yr), SQL (4yr), Spark (4yr), Shell (9yr), **Matlab** (9yr), HTML
Collaborative filter, Content-based filtering, **Hybrid systems**, **Deep Recommendation**, Latent Semantic
Conversational AI, Language model, Question Answering, Market/Ads recommendation
Deep Learning for NLP (**III**), **Convolutional Network** (**II**, **III**), Acoustic Signal (**I**, **III**), Sparse Coding (**II**)
Morphology, Hist, edge detect., Spatio-Spectral, Color-Systems, Hough/Feature transforms, Contouring
VQA, Visuo-Linguistics, **Multimodal Language Analysis** (Audio, Video, Speech), XGBoost, DTree
SHAP, **Grad-CAM**, SmoothGrad, **Feature-Importance**, LIME, **Transformer-Attention-Heatmap**, TCAV
MySQL, **MongoDB**, Neo4j, **Docker**, AWS, **Flask**, GCP, Data Review, Lambda, Azure, JSON, PySpark
Summarization, Sentiment (**II**, **III**), NLU, **Machine Translation** (**II**), Dependency Parse (**II**), TTS (**I**), LSA
Bokeh, Seaborn, Plotly, Holoviz, data storytelling, Tableau, Microsoft PowerBI, Matplotlib
Node2vec, Graph2vec, Concept2Vec, SDNE, LINE, HARP, BERT-KGE, Graph-WSD

EDUCATION

2009 – 2013	B.Sc. in Electrical & Computer Engineering (*Click for thesis in a glance*)
	• Processing human **speech**, Generating speech from text. Shiraz University, Shiraz, Iran
2015 – 2017	M.Sc. in Cognitive Neuroscience: (*Click for thesis in a glance*)
	▪ Classification of human **brain data**, Controlling PC by imagery. Polytechnic University, Tehran, Iran
2020 – 2024	Graduate RA in Computer Science: (*Click for thesis in a glance*)
	• Classify human language. Interpret **affects** by Audio, Visual & Language. Queen's Uni., Canada

Teaching / TA — Dimensionality Reduction Workshops (1yr), Matlab GUI Workshops (1yr), C++ (3yr), Python (1yr)
Certificates — Entrepreneurship Course, Know About Business course, SQL (Hackerrank), Deep Learning Coursera
Mentorship (with linked projects) — **Supervised** 3 undergraduate students in 2021: (linked reports: Fu Z., Jia F., Gu T.)
Mentorship (with linked projects) — **Supervised** 3 undergraduate students in 2022 (linked reports: Shu B., Pattoo A., Li X.)
Mentorship(with linked projects) — **Mentored** 3 graduate students in 2022 (linked reports: Kokel V., Sadman N., Eshghanmalek M.)
Digital Skills — Information processing | Communication | Content creation | Safety | Problem solving
Personality Traits — **Enthusiasm** Confident Flexible Tolerant **High-integrity** Professional Integrity **Out-of-Box-Thinker**
Honours — Selected Reinforcement Learning Project. CS Olympiad Winner, Among Top 1% in nationwide-exams
Invention — Anti-Theft adapter, Transformer-Leakage Remover, **OCR** based scientific calculator
Courses — **Deep Learning**, Data **Analytics**, Computer **Vision**, Biological/ **Statistical**/Digital **Signal Processing**
Tutoring — Teaching personalized by age with **Piaget** theory of **Cognitive Development** (Sample), K-12 Education

SELECTED PROJECTS

2018-2020	EduT@Inovate: Style-Transferring Education by rhythms, rhymes, stories & humour (Result) (Report)
2016-2018	Ergonomic-Report-**Translator** (Rule/Neural/SMT) (Interface): User-Adaptive, Least keypress (Details)
2020-2021	Fine-Tune: A Python-based **Auto-ML** toolkit for numerical-analysis & machine-learning (Git Repo)
2021-2022	Dim-Reduction-Visualizer: A visualization toolkit for collection of **Dimensionality-Reductions** (Git Repo)
2012-2014	**License-Plate**-Detector: A C#-based Tool for Recognizing License Plates (Source)
2014-2016	TextToSpeech**Educator**: Interactive **Explanation** of **TTS** Design (Feature, HMM, POS-tag, Clsfr) (Report)

SELECTED PUBLICATIONS

- Hogan, I., Qiao, D., Luo, R., Moattari, ... & Breton, M.. **FireWarn: Hazards Detection Using Deep Learning Models**. In 2021 IEEE 3rd International Conf. on Cognitive Machine Intelligence (CogMI) Best paper.. (Link)

- Moattari, M., Moradi, M., 2020. **Conflict Monitoring Optimization Heuristic Inspired by Brain Fear and Conflict Systems**. International Journal of Artificial Intelligence. (Inspired by human cognition) (Link)

- **ProjB: An Improved Bilinear Biased ProjE model for Knowledge Graph Completion**., (Link)

- **An Interpretable Cognitive-inspired Method for Multimodal Language Analysis**, (Link) (Link) (MiniBook)