

Senior Data Scientist  
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**RESEARCH INTERESTS** Self-Supervised Learning; Generative AI; Representation Learning; Multi-View Learning; Big Data; Deep Learning; Probabilistic, Bayesian, and Causal Models; Natural Language Processing; Computer Vision.

**EDUCATIONS** **Doctor of Philosophy** Sep/2014-Jun/2018  
Computer Science, Nanjing University of Aeronautics and Astronautics

**Master's Degree** Feb/2011-Sep/2013  
Information Technology, Mazandaran University of Science and Technology

**Bachelor's Degree** Sep/2008-Aug/2010  
Computer Engineering, Mazandaran University of Science and Technology

**Associate Degree** Sep/2004-Oct/2006  
Computer Engineering, Islamic Azad University (Eghlid Branch)

**EXPERIENCES** **Senior Data Scientist @ National Bank of Canada** Mar/2025-present  
(since 2005)

**Senior Data Scientist @ Canadian Western Bank** Oct/2024-Mar/2025  
\*\* The Canadian Western Bank has been merged with the National Bank of Canada.

**CEO/Founder @ Learning By Machine** Mar/2024-present  
A self-employed role that initially focused on providing AI consulting, DevOps, and MLOps services. I now use this title solely to contribute to academic research and open-source projects.

**Research Associate** Apr/2024-Oct/2024  
Departments of Psychiatry and Computing Science, Faculty of Science, University of Alberta (full-time job).

**System Architecture Adviser @ Strongest Families Institute** Jun/2024-Oct/2024  
A contract position for DevOps, concentrating on migrating the existing IRIS system to a new scalable platform using Rust, PostgreSQL, Kubernetes, and

related technologies, focusing on preparing the system for advanced machine learning services.

**AI Lead @ PeerX AI**

Apr/2024-Oct/2024

A contract job for MLOps various scalable NLP/LLMs for sentiment analysis, toxic chat detection, depression flagging, and data anonymization.

**Lead Software and System @ FutureCite**

Jan/2024-Oct/2024

A contract job for MLOps various scalable NLP/LLMs for course and job matching, and developing lifestyle-based machine learning analysis using wearable data.

**Lead Software and System @ FutureCite**

Jan/2023-Jan/2024

A funded MITACS project to migrate and scale the existing system to Kubernetes and GCP AlloyDB (PostgreSQL) and prepare them for machine learning services.

**Postdoctoral Fellow**

Apr/2019-Apr/2024

Department of Computing Science, Faculty of Science, University of Alberta (full-time job).

**Postdoctoral Fellow**

Jul/2018-Mar/2019

Department of Computer Science and Technology, Nanjing University of Aeronautics and Astronautics (full-time job).

**Research Assistant**

Sep/2014-Jun/2018

Department of Computer Science and Technology, Nanjing University of Aeronautics and Astronautics (full-time job, part of my Ph.D. funding).

**CTO @ Rasa Ertebatat Soffe Co.**

Aug/2013-Aug/2014

A full-time job for designing data centers, IT infrastructure, VoIP, and embedded software.

**Lecturer**

Feb/2010-Jul/2014

Department of Computer Science, Mazandaran University of Science and Technology (part-time job).

**Senior Computer Engineer @ Rasa Ertebatat Soffe Co.**

Feb/2009-Jul/2013

A part-time job for designing data centers, IT infrastructure, VoIP, and embedded software.

**CTO @ Reza Noor Ltd.**

Nov/2006-Aug/2008

A full-time job for designing IT infrastructure, VoIP, and Expert Systems

TEACHING  
EXPERIENCES

- Lecturer** Sep/2021-Jul/2022  
Department of Psychiatry, University of Alberta, *Course: Research Project in Neuroscience, NEURO 498/499: Machine Learning Applications for Functional Neuroimage Analysis*, In cooperation with Prof. Andrew Greenshaw. Level: Undergraduate, #Semesters: 2
- Teacher Assistant** Sep/2021-Dec/2021  
Department of Computing Science, University of Alberta, *Course: Probabilistic Graphical Models, CMPUT 463/563*, In cooperation with Dr. Lili Mou. Level: Undergraduate and Graduate, #Semester: 1
- Lecturer** Sep/2020-Dec/2021  
Department of Computing Science, University of Alberta, *Course: Individual Study, CMPUT 605: Using Machine Learning to Analyze fMRI data*, In cooperation with Prof. Russ Greiner. Level: Graduate, #Semesters: 3
- Lecturer** Sep/2016-Jul/2018  
Department of Computer Science and Technology, Nanjing University of Aeronautics and Astronautics, *Course: Deep Learning, and Computational Neuroscience*, Level: Graduate, #Semesters: 4
- Teacher Assistant** Feb/2015-Sep/2015  
Department of Computer Science and Technology, Nanjing University of Aeronautics and Astronautics, *Course: Data Mining* under the supervision of Prof. Daoqiang Zhang. Level: Undergraduate and Graduate, #Semester: 1
- Teacher Assistant** Sep/2013-Jul/2014  
Department of Computer Science, Mazandaran University of Science and Technology, *Courses: Artificial Intelligence, and Algorithm* under the supervision of Dr. Hosein Alizadeh, Level: Undergraduate, #Semesters: 2
- Lecturer** Feb/2010-Jul/2014  
Department of Computer Science, Mazandaran University of Science and Technology, *Courses: Data Mining, Expert System, Machine Learning, Computer Networks & Lab., Network Operating System & Lab., Microprocessor & Lab., FPGA, VHDL & Verilog*. Level: Undergraduate, #Semesters: 9
- Teacher Assistant** Feb/2009-Jul/2011  
Department of Computer Science, Mazandaran University of Science and Technology, *Courses: Assembly programming* under the supervision of Dr. Saber Nourian. Level: Undergraduate, #Semesters: 5

**Teacher Assistant**

Sep/2005-Jul/2006

Department of Computer Engineering, Islamic Azad University, Eghlid branch,  
*Courses: Microprocessor, FPGA, VHDL, and Verilog.* under the supervision of  
Dr. Ali Bohlooli. Level: Undergraduate, #Semesters: 2

**Teacher Assistant**

Sep/2004-Jul/2005

Department of Computer Engineering, Islamic Azad University, Eghlid branch,  
*Courses: Digital Electronic, and Computer Architecture* under the supervision  
of Dr. Nader Karimi. Level: Undergraduate, #Semesters: 2

## PUBLICATIONS

**Refereed Journal Articles**

- P. Wang, X. Cao, Y. Zhou, P. Gong, **M. Yousefnezhad**, W. Shao, D. Zhang, “*A comprehensive review on motion trajectory reconstruction for EEG-based brain-computer interface*”. *Frontiers in Neuroscience*, June 2, 2023. DOI: 10.3389/fnins.2023.1086472.
- S. Huang, L. Sun, **M. Yousefnezhad**, M. Wang, D. Zhang, “*Functional Alignment-Auxiliary Generative Adversarial Network-based Visual Stimuli Reconstruction via Multi-subject fMRP*”. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, June 6, 2023. DOI: 10.1109/TNSRE.2023.3283405.
- **M. Yousefnezhad**, D. Zhang, A.J. Greenshaw, R. Greiner, “*Editorial: Multi-Site Neuroimage Analysis: Domain Adaptation and Batch Effects*”. *Frontiers in Neuroinformatics*, August 2022 DOI: 10.3389/fninf.2022.994463.
- J. Sawalha\*, **M. Yousefnezhad\***, Z. Shah, M.R.G. Brown, A.J. Greenshaw, R. Greiner, “*Detecting Presence of PTSD Using Sentiment Analysis From Text Data. Frontiers in Psychiatry*”, 12:811392. DOI: 10.3389/fpsy.2021.811392. \*Equal contribution, 2022.
- J. Sawalha\*, **M. Yousefnezhad\***, A.M. Selvitella, B. Cao, A.J. Greenshaw, R. Greiner, “*Predicting pediatric anxiety from the temporal pole using neural responses to emotional faces*”. *Nature Scientific Reports* DOI: 10.1038/s41598-021-95987-4. \*Equal contribution, 2021.
- S. Huang, L. Sun, **M. Yousefnezhad**, M. Wang, D. Zhang, “*Temporal Information Guided Generative Adversarial Networks for Stimuli Image Reconstruction from Human Brain Activities*”. *IEEE Transactions on Cognitive and Developmental Systems (TCDS)*, DOI: 10.1109/TCDS.2021.3098743. 2021.

- **M. Yousefnezhad**, J. Sawalha, A. Selvitella, D. Zhang, “*Deep Representational Similarity Learning for analyzing neural signatures in task-based fMRI dataset*”. Neuroinformatics, 2020.
- **M. Yousefnezhad**, A. Selvitella, L. Han, D. Zhang, “*Supervised Hyperalignment for multi-subject fMRI data alignment*”. IEEE Transactions on Cognitive and Developmental Systems. 2020.
- J. Chen, J. Tan, A.J. Greenshaw, J. Sawalha, Y. Liu, X. Zhang, W. Zou, X. Cheng, W. Deng, Y. Zhang, L. Cui, C. Liu, J. Sun, X. Cheng, Q. Wu, S. Li, S. Mai, X. Lan, Y. Chen, Y. Cai, C. Zheng, D. Cheng, B. Zhang, C. Yang, X. Li, X. Li, B. Ye, **M. Yousefnezhad**, Y. Zhang, L. Zhao, J.C. Soares, X. Zhang, T. Li, B. Cao, L. Cao, “*CACNB2 rs11013860 polymorphism correlates of prefrontal cortex thickness in bipolar patients with first-episode mania*”. Journal of Affective Disorders, Vol. 268, 1 May 2020, pp. 82-87, 2020.
- **M. Yousefnezhad**, D. Zhang, “*Multi-Objective Cognitive Model: a supervised approach for multi-subject fMRI analysis*”. Neuroinformatics, vol. 17, pp. 197-210, Springer, 2019.
- **M. Yousefnezhad**, D. Zhang, “*Anatomical Pattern Analysis for decoding visual stimuli in human brains*”. Cognitive Computation, Vol. 10, pp. 284-295, 2018.
- **M. Yousefnezhad**, S. J. Huang, D. Zhang, “*WoCE: a framework for clustering ensemble by exploiting the wisdom of Crowds theory*”. IEEE Transactions on Cybernetics, IEEE, 2017.
- F. Asghari-Paenroodposhti, S. Nourian, **M. Yousefnezhad**, “*Wised Semi-Supervised Cluster Ensemble Selection: A New Framework for Selecting and Combining Multiple Partitions Based On Prior Knowledge*”. Journal of Advances in Computer Research, vol. 8 (1), 2017.
- **M. Yousefnezhad**, A. Reihanian, D. Zhang, B. Minaei-Bidgoli, “*A new selection strategy for selective cluster ensemble based on Diversity and Independency*”. Engineering Applications of Artificial Intelligence (EAAI), Elsevier, vol. 56, pp. 260-272, 2016.
- M. Kazemi, **M. Yousefnezhad**, S. Nourian, “*A New Approach in Persian Handwritten Letters Recognition Using Error-Correcting Output Coding*”. Journal of Advances in Computer Research, vol. 6 (4), 2015.

- H. Alizadeh, **M. Yousefnezhad**, B. Minaei-Bidgoli, “*Wisdom of Crowds Cluster Ensemble*”. Intelligent Data Analysis (IDA), IOS Press, vol. 19 (3), 2015.

### Refereed Conference Papers

- A. Akbari, K.S. Arani, M. Yousefnezhad, M. Mirian, E. Arasteh, “Joint Learning for Visual Reconstruction from the Brain Activity: Hierarchical Representation of Image Perception with EEG-Vision Transformer” NeurIPS 2024 Workshop UniReps, 2024. Vancouver, Canada.
- M. Soltanpour, **M. Yousefnezhad**, R. Greiner, B. Buck, B. Boulanger, “*Using temporal GAN to translate the current CTP scan to follow-up MRI, for predicting final acute ischemic stroke lesions*”. SPIE Medical Imaging. 19-20 February 2023. San Diego, California, United States.
- **M. Yousefnezhad**, A. Selvitella, D. Zhang, A.J. Greenshaw, R. Greiner, “*Shared Space Transfer Learning for analyzing multi-site fMRI data*”. The 24th Conference on Neural Information Processing Systems (NeurIPS2020), December 6—12, ~~Vancouver, Canada~~, virtual-only conference, 2020.
- S. Huang, L. Sun, **M. Yousefnezhad**, M. Wang, D. Zhang, “*Perceived Image Reconstruction from Human Brain Activity via Time-series Information Guided Generative Adversarial Networks*”. The 27th International Conference on Neural Information Processing (ICONIP2020), November 18—22, ~~Bangkok, Thailand~~, virtual-only conference, 2020.
- B. Behroozi Asl, **M. Yousefnezhad**, K. Wallace, E. Yang, L. Roper, G. Aryal, R. Isenberg, R.J. Lodhi, P. Carnes, B. Green, R. Greiner, K.J. Aitchison, “*Using Machine Learning to Explore Problematic Sexual Behavior and Related Conditions*”. Virtual World Congress of Psychiatric Genetics (WCPG2020), October 19—21, virtual-only conference, 2020.
- X. Sheng, **M. Yousefnezhad**, T. Xu, N. Yuan, D. Zhang, “*Gradient-based Representational Similarity Analysis with Searchlight for Analyzing fMRI Data*”. 1st Chinese Conference on Pattern Recognition and Computer Vision 2018 (PRCV18), November 23—26, Guangzhou, China.
- T. Xu, **M. Yousefnezhad**, D. Zhang, “*Gradient Hyperalignment for multi-subject fMRI data alignment*”, 15th Pacific Rim International Conference on Artificial Intelligence (PRICAI 2018), Nanjing, China, August 28—31, 2018.

- **M. Yousefnezhad**, D. Zhang, “*Deep Hyperalignment*”, 31st Advances in Neural Information Processing Systems (NIPS), Long Beach, USA, December 4—9, Spotlight Presentation, 2017.
- **M. Yousefnezhad**, D. Zhang, “*Multi-Region Neural Representation: A novel model for decoding visual stimuli in human brains*”. SIAM International Conference on Data Mining (SDM), Houston, Texas, USA, April 27-29, pp. 54-62, 2017.
- **M. Yousefnezhad**, D. Zhang, “*Local Discriminant Hyperalignment for multi-subject fMRI data alignment*. 34th AAAI Conference on Artificial Intelligence (AAAI), San Francisco, California, USA, February 4—9, pp. 59-65, 2017.
- **M. Yousefnezhad**, D. Zhang, “*Decoding visual stimuli in the human brain by using Anatomical Pattern Analysis on fMRI images*”. 8th International Conference on Brain Inspired Cognitive Systems (BICS), Beijing, China, November 28—30, LNAI: 10023, pp. 47-57, **Best Student Award**, 2016.
- M. Bagheri, **M. Yousefnezhad**, A. Reihanian, “*Non-functional requirement management in service orientation by using aspect orientation*”. 3rd International Conference on Applied Research in Computer and Information Technology, Maleke Ashtar University of Technology, Tehran, Iran, February 04, 2016.
- **M. Yousefnezhad**, D. Zhang, “*Weighted Spectral Cluster Ensemble*”. IEEE International Conference on Data Mining series (ICDM'15), Atlantic City, New Jersey, USA, pp. 549-558, Nov 14—17, 2015.
- A. Reihanian, B. Minaei-Bidgoli, **M. Yousefnezhad**, “*Evaluating the effect of topic consideration in identifying communities of rating-based social networks*”. 7th International Conference on Information and Knowledge Technology (IKT'15), Urmia, Iran, May 26—28, 2015.
- S. Aghaei Nezhad Firouzja, **M. Yousefnezhad**, M. Fauzi Othman, M. Samadi, “*A wise routing protocols for Leo Satellite Networks*”. 10th Asian Control Conference, Universiti Teknologi Malaysia, Malaysia, 2015.
- M. Tourandaz, **M. Yousefnezhad**, S. Nourian, “*To propose a new method for diagnosing Alzheimer's disease based on the selected features via sparse coding*”. 7th Iranian & 1st International Conference of Knowledge Management (ICKM'15), Shahid Beheshti University, Tehran, Iran, 2015.

- M. Tourandaz, **M. Yousefnezhad**, S. Nourian, “*Diagnosis of Alzheimer's Disease by applying Support Vector Machine on the Locally Linear Embedding mapped data*”. 1st ICCONF, Tehran, Iran, 2015.
- M. Tourandaz, **M. Yousefnezhad**, S. Nourian, “*Diagnose mild cognitive impairment's disease based on the selected features via sparse coding*”. National Conference on Intelligent Systems and Communications Technology (TSPI'15), Tabriz, Iran, 2015.
- M. Tourandaz, **M. Yousefnezhad**, S. Nourian, “*To propose a new method for predicting Alzheimer's disease in MCI subjects based on the selected features via sparse coding*”. National Conference on Information & Communication Technology (ICT'15), Shahid Beheshti University, Tehran, Iran, 2015.
- M. Kazemi, **M. Yousefnezhad**, S. Nourian, “*Persian Handwritten Letter Recognition Using Ensemble SVM Classifiers Based on Feature Extraction*”. National Conference on Intelligent Systems and Information and Communications Technology, Tabriz, Iran, 2015.
- M. Kazemi, **M. Yousefnezhad**, S. Nourian, “*Persian Handwritten Letters Recognition with Using Ensemble Methods*”. 2nd Conference on Computer and Information Technology (CSCCIT'14), Tabriz, Iran, 2014.
- **M. Yousefnezhad**, H. Alizadeh, B. Minaei-Bidgoli, “*New cluster ensemble selection method based on Diversity and Independent metrics*”. 5th Conference on Information and Knowledge Technology (IKT'13), Shiraz, Iran, 2013.

RESEARCH GRANTS	<b>Mood Disorders Society of Canada</b>	2024-2025
	* Provided by Prof. A.J. Greenshaw as Principal Investigator 80,000 CAD total for 12 months.	
	<b>MITACS, Canada</b>	2023-2023
	* Provided by R. Greiner as Principal Investigator and FutureCite. 15,000 CAD total for 6 months (Jul-Dec).	
	<b>MITACS, Canada</b>	2023-2023
	* Provided by R. Greiner as Principal Investigator and FutureCite. 15,000 CAD total for 4 months (Feb-Jun).	
	<b>Pfizer, Canada</b>	2022-2023
	* Provided by Prof. A.J. Greenshaw as Principal Investigator 25,000 CAD total for 6 months.	



**The Alberta Machine Intelligence Institute (Amii), Canada** 2019-2024

\* Provided by Prof. R. Greiner as Principal Investigator

225,000 CAD total for five years.

**Jiangsu International Young Scientists, China** 2018-2019

400,000 RMB (~80,000 CAD) total for two years.

**Chinese Government Scholarship (CSC), China** 2014-2018

\* Provided under the supervision of Prof. D. Zhang as part of the Ph.D. program

220,000 RMB (~44,000 CAD) total for four years

AWARD

- Best poster award in the TechAid, Alberta Machine Intelligence Institute (Amii), 2023.
- Best Ph.D. thesis award at the Nanjing University of Aeronautics and Astronautics, 2018.
- The best student paper award in the BICS for our paper entitled "Decoding visual stimuli in the human brain by using Anatomical Pattern Analysis on fMRI images," 2016.
- Outstanding Paper Award 2015 in the International Academic Conference for Graduates, Nanjing University of Aeronautics and Astronautics, for our paper entitled "Adaptive Weighted Spectral Clustering."
- Outstanding Paper Award 2014 in the International Academic Conference for Graduates, Nanjing University of Aeronautics and Astronautics, for our paper entitled "Wisdom of Crowd Cluster Ensemble."
- Invited to the Ph.D. course as a Brilliant Student with a full scholarship, China, 2014.
- Graduated as the top student over 25 peers in the course (M.Sc.), "Mazandaran University of Science and Technology," Iran, 2013
- Invited to M.Sc. interview as a Brilliant Student without the entrance exam in "Mazandaran University of Science and Technology," Iran, 2010.
- Graduated as the top student over 30 peers in the course (B.Sc.), "Mazandaran University of Science and Technology," Iran, 2010.

INVITED  
TALK

- Invited to B.Sc. interview as a Brilliant Student without the entrance exam in "Islamic Azad University," 2006.
- Graduated as the top student over 40 peers in the course (Associate), "Islamic Azad University Eghlid branch," Iran, 2006.
- 3rd in Mazandaran Kharazmi Festival for designing computer software in order to manage and control the cost and time in the Industrial Projects, 2001
- 2nd programmer in National Computer Programming Competition, Mazandaran, Iran, 1999.
- **M. Yousefnezhad**, Artificial Intelligence, Machine Learning, and Pharmacy: A brief introduction. Professional Development Conference, Alberta Pharmacists' Association (RxA), Sep 2023.
- **M. Yousefnezhad**, Reading Minds: A Neuroscience Application of Machine Learning, Keynote, NatChat, University of Alberta, Canada, Mar 2022.
- **M. Yousefnezhad**, Machine Learning Applications in NeuroInformatics, Keynote (in cooperation with Prof. Russ Greiner), Neuroscience and Mental Health Institute (NMHI), University of Alberta, Canada, Jan 2022.
- **M. Yousefnezhad**, Shared Space Transfer Learning for analyzing multi-site fMRI data, AI Seminar, University of Alberta, Canada, Aug 2021.
- **M. Yousefnezhad**, Human Brain Mapping and Decoding, AI Seminar, University of Alberta, Canada, May 2019.
- **M. Yousefnezhad**, Analyzing Human Brain Patterns by Using Deep Approaches, Keynote, 1st Machine Learning, Optimization, and Control (MLOC'18), Shenzhen, China, 2018.
- **M. Yousefnezhad**, Deep Hyperalignment. Spotlight, 15th Workshop in Machine Learning and Application (MLA'17), Beijing Jiaotong University, China, 2017.
- **M. Yousefnezhad**, Adaptive Weighted Spectral Clustering. Keynote, 3rd International Conference of Postgraduates, Nanjing University of Aeronautics and Astronautics, China, Opening Talk, 2015.

- **M. Yousefnezhad**, Wisdom of Crowds Cluster Ensemble Selection. Keynote, 2nd International Conference of Postgraduates, Nanjing University of Aeronautics and Astronautics, China, Opening Talk, 2014.
- **M. Yousefnezhad**, Network Security: A modern approach, Keynote, 1st Annual Conference, Mazandaran University of Science and Technology, Iran, 2011.

#### ACADEMIC SERVICE

##### **Guest Editorial**

Frontiers in Neuroinformatics; Research Topic: *Multi-Site Neuroimage Analysis: Domain Adaptation and Batch Effects* 2022

##### **Conference Reviewer**

Conference on Neural Information Processing Systems (NeurIPS) 2018-2025  
 International Conference on Learning Representations (ICLR) 2022  
 International Conference on Machine Learning (ICML) 2018-2019, 2021  
 Association for the Advancement of Artificial Intelligence (AAAI) 2018-2021  
 International Conference on AI and Statistics (AISTATS) 2017-2019  
 International Joint Conferences on Artificial Intelligence (IJCAI) 2018-2017  
 The Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD) 2015-2016

##### **Journal Reviewer**

Psychological Bulletin  
 IEEE Transactions on Cybernetics  
 IEEE Transactions on Neural Networks and Learning Systems  
 IEEE Transactions on Cognitive and Developmental Systems  
 IEEE Transactions on Medical Imaging  
 IEEE Transactions on Applied Perception  
 ACM Transactions on Autonomous and Adaptive Systems  
 Pattern Recognition  
 Cognitive Computation  
 Neuroinformatics  
 Springer Multimedia Systems  
 BMC Public Health  
 International Journal of Information Technology & Decision Making  
 Science China-Information Sciences

#### PROJECTS

##### **Machine Learning Related Projects**

- Designing, implementing, and MLOps a cloud-based sentiment analysis for analyzing chat content for PeerX AI. Website: <https://peerx.ai>

- Designing, implementing, and MLOps a cloud-based toxic content detection for analyzing chat data for PeerX AI. Website: <https://peerx.ai>
- Designing, implementing, and MLOps a cloud-based depression flagging for analyzing chat content for PeerX AI. Website: <https://peerx.ai>
- Designing, implementing, and DevOps the Health Remote Sensing (HRS) platform that applies machine learning analysis on wearable data captured by Apple devices. In collaboration with: Professors A.J. Greenshaw, J. Hayward, and R. Greiner.
- Designing, implementing, and MLOps a web-based NLP platform for FutureCite. Website: <https://futurecite.com>
- Designing, implementing, and DevOps a mobile application to apply machine learning analysis to health data generated by wearables for FutureCite. In collaboration with: Prof. R. Greiner. Website: <https://futurecite.com>
- Founder of Easy fMRI (a toolbox for human brain mapping and decoding). Website: <https://easyfmri.learningbymachine.com>
- Founder of Easy Data (a repository for sharing preprocessed task-based fMRI datasets). Website: <https://easydata.learningbymachine.com>
- Founder of easyX project: a Python library for storing big, complex data structures. Website: <https://pypi.org/project/easyx/>
- Suicide prediction based on Chongqing, China dataset: An electronic health record (EHR) project based on text and tabular data. In collaboration with Professors A.J. Greenshaw, and R. Greiner.
- Diagnosing the stroke in mouse brains based on Calcium images. In collaboration with Professors A. Chen, and I.R. Winship.
- Predicting cognitive tasks in mouse brains by using EEG. In collaboration with Professors A. Chen, and I.R. Winship.
- Designing Expert System for forecasting production rate in Reza Noor Ltd.
- Designing cheat detection for the finance system in Reza Noor Ltd.

## Computing Engineering Related Projects

- Designing, migrating, and scaling the Strongest Families Institute IRIS platform from a bare-metal server to a microservice architecture based on Rust, PostgreSQL, and Kubernetes. Website: <https://strongestfamilies.com/>
- Designing, migrating, and scaling the FutureCite Careers Courses platform from a bare-metal server to a microservice architecture based on Kubernetes and PostgreSQL. Website: <https://futurecite.com>
- Developing PgLib and RedisLib projects: open-source libraries that can connect Rust data structures to PostgreSQL and Redis databases. Website: <https://github.com/myousefnezhad/boilerplates-for-rust-application>
- Developing Kube Cloud and GKE Cloud projects that provide a Software Developing Kit (SDK) for launching containerized applications in Kubernetes or Google Cloud. Kube Cloud website: <https://hub.docker.com/r/myousefnezhad/kubeccloud>. GKE Cloud website: <https://hub.docker.com/r/myousefnezhad/gkecloud>
- Developing Rust docker boilerplate that can provide a Software Developing Kit (SDK) to launch containerized Rust web-based applications in cloud infrastructure. Website: <https://hub.docker.com/r/myousefnezhad/rust>
- Designing and implementing a Data Center for Sari municipality (Rasa Ertebatat Soffe Co.)
- Designing and implementing the network in Reza Noor Ltd.
- Designing FPGA, USB, and PCI learning kit (for MUST University).
- Designing Emergency lights, LED halogen lights, and fluorescent blast for Reza Noor Ltd.
- Designing ICT-Master plan for Mazandaran University of Science & Technology
- Analysis and implementation of software for network management at Reza Noor Ltd.
- Designing and implementing Smart Identifier (a general smart key).

ENDORSED  
SKILLS

**Programming Languages:** Python, Rust, Kotlin (+KMP, CMM), SwiftUI, Javascript, Scala, R, MatLab, Java, C, C++, Dart.

**Machine Learning Library:** Scikit-learn, Tensorflow (+Probability, GPflux), JAX, PyTorch (+LibTorch, Tch-rs, Rust-bert), PyWhy, Stable-Baselines3, Transformers, Accelerate, Linfa, OpenCV, CUDA, PySpark, NLTK, Stanford NLP, NER, Apache Spark, Apache Hadoop.

**LLM:** ChartGPT, Claude, Llama, BERT, BART, OpenChat, Mistral, Phi, Whisper, Wav2Vec.

**Database:** PostgreSQL, MySQL, ScyllaDB, Redis, Kafka, CassandraDB, MongoDB, Microsoft SQL, Oracle Database.

**Neuroscience:** AFNI, FSL, SPM, FreeSurfer, Group ICA, NIFTI.

**Operating System:** Linux (Arch, Fedora, and Debian), macOS, Windows (+Server), UNIX (FreeBSD, OpenBSD), Solaris, Cisco IOS.

**DevOps:** Docker, Kubernetes, Helm, CI/CD (GitLab and GitHub), JWT, Proxmox HPC, Ceph.

**Cloud Platforms:** Amazon AWS, Google Cloud, Microsoft Azure.

**Hardware Platforms:** ARM, FPGA (Xilinx), Verilog, VHDL, Altium Designer.

**Other Frameworks:** Yew, Actix, Axum, FastAPI, React, NextJS, Agile, Hive, Scrum, Karbon.