

Research Interests

- Internet of Things (IoT)
- Machine Learning
- Wireless Sensor network
- 5G/6G
- Federated learning

Education

- **Ph.D. in Computer Engineering - Computer Architecture** 2009 – 2015
Islamic Azad University, Qom Branch; GPA: 19/20 Qom, Iran
- Thesis: Determining Transmitting Packets in Spray and Wait Routing Protocol for Opportunistic Networks
- **M.Sc in Computer Engineering - Computer Hardware** 2004 – 2009
Islamic Azad University, Shabestar Branch; GPA: 16.66/20 Shabestar, Iran
- Thesis: Intelligent Scheduling in Grid Computing
- **B.Sc. in Computer Engineering - Computer Software** 2000 – 2003
Payame noor university, Bonab Branch; GPA: 14.5/20 Bonab, Iran
- Thesis: Designing a portal for Tehran Dibagran institute

Publications

- **A Mollanejad**, A Ghaffari, A Seyyedabbasi, AH Navin, [Fairness-based Federated Learning in Autonomous Vehicles with Exponential Moving Average Loss Weighting](#), *Cluster Computing*, 2025
- **A Mollanejad**, N Derakhshanfard, M Hoseinnezhad, A Mirzaei, [Communication-efficient Federated Learning via Feature Correlation and Entropy Analysis](#), Preprint, 2026.
- N Derakhshanfard, S Ghiasi, **A Mollanejad**, N Dadashkhani, [Genetic algorithm-based optimal node selection for distributed data storage in Internet of Things networks](#), *Discover Artificial Intelligence*, 2026.
- N Derakhshanfard, A Koshgizadeh, **A Mollanejad**, R Farahi, [Design and evaluation of an interactive physiotherapy motion-assessment system using HCI and LSTM networks](#), *Discover Applied Sciences*, 2026.
- N Derakhshanfard, T Salimzadeh, **A Mollanejad**, N Dadashkhani, [Efficient abnormal behavior detection in information-centric Internet of Things using SVM](#), *Scientific Reports*, 2026.
- Q Zhang, N Derakhshanfard, G Pourm Mahmood, **A Mollanejad**, M Hosseinzadeh, [A hybrid data-driven framework for real-time edge computing optimization in IoT environments](#), *Journal of Cloud Computing*, 2026.
- **A Mollanejad**, AH Navin, S Ghanbari, “[Fairness-aware loss history based federated learning heuristic algorithm](#),” *Knowledge-Based Systems* 288, 111467, 2024.
- **A Mollanejad**, AAA Ahrabi, H Bahrbeigi, LM Khanli, “[A New Pluggable Framework for Centralized Routing in Wireless Sensor Network](#),” *International Journal of Computer Network and Information Security* 6 (12), 28, 2014.
- M Zeynali, **A Mollanejad**, LM Khanli, “[Novel hierarchical routing protocol in wireless sensor network](#),” *Procedia Computer Science* 3, 292-300, 2011.
- **A Mollanejad**, LM Khanli, M Zeynali, H Bahrbeigi, AA Alasti, “[EHRP: Novel energy-aware hierarchical routing protocol in wireless sensor network](#),” *International Congress on Ultra Modern Telecommunications and Control Systems*, 970-975, 2010.
- **A Mollanejad**, LM Khanli, M Zeynali. [DBSR: Dynamic base station Repositioning using Genetic algorithm in wireless sensor network](#). *ICCEA '10: Proceedings of the 2010 Second International Conference on Computer Engineering and Applications*, Volume 02, 2010.

- M Zeynali, LM Khanli, **A Mollanejad**, “[Fuzzy based approach for load balanced distributing database on sensor networks](#),” *International Journal of Future Generation Communication & Networking* 3 (2), 2010.
- M Zeynali, LM Khanli, **A Mollanejad**, “[TBRP: novel tree based routing protocol in wireless sensor network](#),” *International Journal of Grid and Distributed Computing* Vol. 2, No. 4, December, 2009.
- H Bahrbeigi, AH Navin, AAA Ahrabi, MK Mirnia, **A Mollanejad**, “[A New System to Evaluate GA-based Clustering Algorithms in Intrusion Detection Alert Ma](#),” *Second World Congress on Nature and Biologically Inspired Computing* Dec. 15-17,2010.
- M Zeynali, LM Khanli, **A Mollanejad**, “[Edarp: novel energy and distance-aware routing protocol in wireless sensor network](#),” *2nd International Conference on Interaction Sciences: Information Technology, Culture and Human Pages* 526 - 533, 2020.

Teaching Experiences

- **Islamic Azad University, Jolfa Branch** 2009 – Present
Courses taught: Computer Networks, Advanced Computer Networks, Wireless and Mobile Networks, Machine Learning, Digital Logic Circuits and Design, Discrete Mathematics
- **Payame Noor University, Jolfa Branch** 2010 – 2015
Courses taught: Digital Logic Circuits and Design, Machine Learning
- **Islamic Azad University, Tabriz Branch** 2022 – Present
Courses taught: Computer Networks, Machine Learning

Languages

- Azerbaijani: *Native*
- Persian: *Native*
- English: *Proficient*

Skills

- **Programming Languages:** C/C++, Python.
- **Network Simulation and Modelling:** The ONE (Opportunistic Network Environment).
- **Tools:** Microsoft Office (Word, Excel, Access, PowerPoint, Visio), Windows OS, EndNote.
- Java EE 8 Programming
- JavaScript
- Python Programming
- SQL Server
- Big Data Analytics
- Machine Learning
- Data Science
- Web Application Development
- Mobile Application Development
- Desktop Application Development
- Design and implementation of relational and NoSQL databases
- Strong knowledge of computer networks and network equipment configuration
- Network security management in enterprise environments
- Proficiency in Linux operating systems and command-line tools (Shell, Bash)
- Experience in Linux server virtualization
- Familiarity with information security concepts and penetration testing
- Software testing methodologies
- Automation Testing
- Technical team leadership and software project management
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Professional Training

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|---|-----------------------------|
| • Web Designing (HTML)
<i>Iran Technical and Vocational Training Organization</i> | 2004 – 2005
Tabriz, Iran |
| • Training Methods
<i>Islamic Azad University, Tabriz Branch</i> | 2015 – 2016
Tabriz, Iran |
| • <i>ETS General GRE (2010)</i> | |
| • <i>Microsoft Windows Professional</i> | |
| • <i>Windows Server: Implementing, Managing & Maintaining</i> | |
| • <i>Active Directory Infrastructure</i> | |
| • <i>ISA Server</i> | |

Industrial Projects

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| • Tabriz Distribution Electrical Co.
<i>Idle Clicker Game: For teaching safety and optimal consumption messages in the electricity supply network</i> | 2022-Present |
| • Tabriz Distribution Electrical Co.
<i>Abuse Detection: Based on data mining in the electricity distribution network of Tabriz</i> | 2022-Present |
- **Predictive Maintenance System for Industrial Machinery – Tabriz Tractor Manufacturing Forging Plant:** This project aimed to monitor equipment conditions and predict failures in production lines. By analyzing sensor data and applying machine learning algorithms, abnormal operational patterns were detected and optimal maintenance times were predicted. The project significantly reduced unexpected downtime, optimized maintenance costs, and increased production efficiency.
 - **Intelligent Job–Candidate Matching System:** Developed for one of Iran’s governmental ministries, this project focused on designing an intelligent system to match individuals’ skills and experience with available job positions. Machine learning and data analysis techniques were used to automatically assess compatibility between applicants and organizational needs, improving recruitment accuracy and efficiency.
 - **Intelligent Twitter Trend Classification and Analysis System:** This project involved the intelligent identification, classification, and analysis of Twitter trends using Natural Language Processing (NLP) and machine learning techniques. Large-scale textual data were collected, cleaned, and analyzed to identify user behavior patterns and trending topics over time, supporting media decision-making and digital marketing strategies.
 - **Bargah Website Design and SEO Optimization:** Design and development of the official Bargah website, including modern and responsive UI/UX design and technical SEO optimization. The project resulted in improved Google search rankings, increased organic traffic, and enhanced user experience.
 - **Behnoz Golbahar Company Website Design and SEO:** Design and implementation of the official website with responsive UI, SEO-based content optimization, and site structure improvement, leading to better search engine visibility and user engagement.
 - **Web-Based Access Control Mechanism:** Design and implementation of a role-based access control (RBAC) system for web services, ensuring secure and authorized access to system resources and reducing unauthorized access risks.
 - **Sales Management System for Shokomad Company:** Development of an integrated system for wholesale, retail, and distributor sales management, including order tracking, inventory management, and financial reporting, significantly improving business operations.
 - **Persian Content Management System (CMS):** Development of a custom Persian CMS enabling full content management, user management, categorization, and media handling, designed for both non-technical users and advanced customization.
 - **Automatic License Plate Recognition System (ALPR):** Design and implementation of an intelligent vehicle license plate recognition system using image processing and machine learning, capable of operating under various lighting and angle conditions to improve traffic monitoring accuracy.

In addition, I have been involved in numerous other projects in software development, artificial intelligence, data analysis, and web technologies.

Hobbies

- Fitness
- Mountain Climbing
- Hiking