Negar Arianfar

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Professional Summary

Research-oriented professional with a combined background in Computer Engineering and Management (HDWM), driven by a genuine curiosity about how AI can reshape the way organizations think and make decisions. I'm particularly interested in building AI-driven models, especially reinforcement learning and strategic decision systems and exploring how these ideas can move beyond theory into real, testable applications. I enjoy turning abstract concepts into working computational frameworks and studying their impact in practice. I am open to doctoral opportunities in AI, machine learning, and intelligent systems.

Higher Education

Master of Business Management. 2023-2025

- *Hochschule der Wirtschaft für Management (HDWM), Mannheim, Germany*
- GPA: 1.81
- Specialization in International Marketing & Sales with emphasis on global business strategy and market development.

Master of Software Engineering. 2014–2018

- *University of Najaf Abad Azad, Esfahan, Iran*
- GPA: 3.4 out of 4 (16.85/20)
- Focused on software design, system optimization, and advanced programming with research in wireless sensor networks and data efficiency.

Bachelor Hardware Engineering. 2008–2014

- *University of Najaf Abad Azad, Esfahan, Iran*
- GPA: 2.7 out of 4 (13.40/20)
- Studied digital systems, computer architecture, and hardware design, with practical experience in embedded systems and electronics.

Research Interests

- AI for Strategic and Organizational Systems
- Reward Design & Environment Modeling
- Strategic Decision-Making

- Decision-Theoretic Modeling
- Multi-Agent Systems
- Deep Reinforcement Learning

Skills

Technical Skills:

- Reinforcement Learning (DQN, reward design, environment modeling)
- Python (ML workflows, tensor operations)

Research Skills: Academic Writing, Literature Review, Data Interpretation, Project Management, RL.
Languages: Persian (Native), English (Fluent), German (A2 – improving).

Research Experience

- **Development of "Arian AI-Chessboard Model" (2023–present)**
  Conceptualized an AI-driven strategic decision framework integrating game theory and machine learning for marketing and management.
- **Wireless Sensor Networks Optimization (M.Sc. Research)**
  Designed and implemented clustering algorithms to enhance data transmission efficiency and energy optimization in WSNs.
- **Authored Book – "Chessboard of Business" (2021 & 2025 Editions)**
  Developed and refined a strategic framework linking chess-based reasoning to business decision-making.
- **Reinforcement Learning Researcher — MiniChess-RL Project (2025)**
  – Built a custom 4×4 mini-chess RL environment with tensor states & 256-action space.
  – Implemented DQN (PyTorch) with replay buffer, target network, and epsilon-greedy exploration.
  – Designed reward system and evaluated agent performance over 100 episodes.
  – Authored a technical report documenting results and methodology.

Publications

Technical Reports

- **Arianfar, N.** (2025). *MiniChess-RL Technical Report: Deep Q-Network for a Custom 4×4 Chess Environment*. Designed a full RL pipeline (environment design, state/action formalization, reward shaping, DQN implementation, training & evaluation).
  - GitHub: github.com/negarinarianfar/mini-chess-rl

Books & Authored Works

- **Arianfar, N.** (2026). Learning Reinforcement Learning Through Projects: From Zero to your First Deep Q-Network, Amazon KDP, ISBN: 9798249128067.

- **Arianfar, N.** (2025). Chessboard of Business (Revised and Expanded Edition). Amazon KDP, ISBN: 979-8269053646.
  (An updated English edition of the original Persian book, focusing on strategic thinking and business decision-making through the chess metaphor.)
- **Arianfar, N.** (2021). Chessboard of Business (in Persian). Atran Publication Corporation, Tehran, Iran. ISBN: 978-622-7850-15-4.

Manuscripts Submitted / Under Review

- **Arianfar, N.** (2025). A Conceptual Reinforcement Learning Architecture for Strategic Decision System, 2025.
- **Arianfar, N.** (2026). Reinforcement Learning-Based Adaptive Cluster Head Selection in Wireless Sensor Networks. Manuscript in preparation.

Conferences Papers

- **Arianfar, N.**, & Daneshvar Farzanegan, S.M. (2018). *A New Energy-Efficient Clustering Method for Wireless Sensor Networks.*
  Presented at the 4th National Conference on Electrical Engineering of Iran, Islamic Azad University, Najafabad Branch, Isfahan, Iran, February 27–28, 2018.

Work Experiences

Information Technology Consultant, Paya Tajhiz Teb Darman Co. 2014-2023

- Managed and maintained the company's IT systems and infrastructure.
- Provided technical support to staff and resolved software and hardware issues.
- Assisted with system setup, updates, and routine maintenance.
- Coordinated with external vendors when needed.

Web Designer • Freelancer • 2019–2023

Created responsive websites for small businesses as a freelancer, with focus on modern design, usability, and online visibility. Managed projects independently, communicating with clients and delivering tailored digital solutions.

Assistantships

Webinar *"From Idea to a Successful Startup"* Instructor, in _Eseminar.tv/wb17803_, Tehran, Iran, 2020

Honor and Awards

- Merit-based admission to B.Sc. programs in Hardware Engineering through competitive entrance exams of Islamic Azad University, Esfahan, Iran, 2008.

- Merit-based admission to M.Sc. programs in Hardware Engineering through competitive entrance exams of Islamic Azad University, Esfahan, Iran, 2015.
- Admitted to Hochschule der Wirtschaft für Management (HDWM), Mannheim, Germany – after successful interview and academic evaluation, 2025.

Selected Workshops/Courses Certificates

- **AI & Cloud Certifications (Google, University of Helsinki – 2025)**
  – Introduction to Generative AI *& Gemini for Cloud Architects – Google Cloud Skills Boost*
  – Machine Learning Crash Course – *Google Developers (Classification, LLMs, Numerical Data, Production ML Systems)*
  – Elements of AI – *University of Helsinki & MinnaLearn (Certificate of Completion, Oct 2025)*
  – Google Project Management Professional Certificate – *Coursera (Aug 2025)*
  – Member, Google Women Techmakers & Google Cloud Innovators
- Import/Export in International Business**,** Kharazmi Institute, Isfahan, Iran, 2022.
- Business Modelling & Productivity Management**,** Iran Chamber of Commerce, Industries, Mines & Agriculture (ICCIMA), 2022.
- Offline Media Publication License**,** Ministry of Culture and Islamic Guidance, Iran, 2022.
- Participation in Multiple Workshops and Seminars in Management and Business Development**,** 2020–2023.
- Introductory Course in Java and Android Programming**,** Jihad Daneshgahi (ACECR Institute), Isfahan, Iran, 2017.
  Completed a foundation-level program in Java programming and Android application development.
- Information Security and Computer Networks, Islamic Azad University, Najafabad Branch – Faculty of Computer Engineering, Isfahan, Iran, 2014.
  Focused on data security concepts, network protection techniques, and emerging technologies in information security.

Volunteering and Extracurricular Activities

- **Pro Bono IT Consulting**: Supported small local businesses and student projects with digital tools, free of charge, to help them grow and improve efficiency.
- **Community Workshops**: Shared knowledge of project management, programming (Python, Java), and business modeling with university students and early-stage entrepreneurs.
- **Volunteer Martial Arts & Fitness Coach**: Led free kickboxing and fitness workshops for youth and women and Guided teenagers in teamwork, confidence, and resilience through martial arts training (2018–present).

References

References available upon request