

Sadra Berangi

Student · ML Engineer

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Summary

B.Sc. graduate in Computer Science from Shahid Beheshti University (GPA: 18.28/20, National University of Iran). Passionate about computer vision,reinforcement learning, robotics, and medical AI, with experiences in both research and real-world projects. Co-authored multiple papers, including works on DoGNet (IEEE Access), DRL for stock trading (ICCKE), explainable AI for Parkinson's diagnosis (Springer) and Prediction of microburst (CCR). Also contributed to several other projects as part of collaborative research. Experienced teaching assistant in many courses such as AI and robotics courses. Certified with IELTS 7.5, and eager to continue advanced studies while contributing to the progress of science and knowledge in artificial intelligence.

Education

Shahid Beheshti University (National University of Iran) *Tehran, Iran*

B.S. in Computer Science and Engineering *2021 – 2026*

- Cumulative GPA: 18.28/20
- Relevant Coursework: Deep Reinforcement Learning (19.83/20), Artificial Intelligence and Expert Systems (19.93/20), Fundamental of Computer Vision (18.75/20), Fundamentals of Robotics (18.92/20), Signals and Systems (19.9/20), Introduction to Machine Learning (17.4/20), Robot Construction Lab (20/20), B.Sc. Thesis (20/20) .

Publications

Fuzzy-DogNet: A Lightweight and Interpretable Deep Unstructured Neuro-Fuzzy System based on Band-Pass Filters for Traffic Sign Recognition *IEEE Access (SJR: Q1)*

Journal Article

- S.Berangi; M.Parchami; A.Salimi. DOI:10.1109/ACCESS.2025.3606963

A Deep Reinforcement Learning Approach Combining Technical and Fundamental Analyses with a Large Language Model for Stock Trading *ICCKE (IEEE)*

Conference Paper

- M.Veisi; S.Berangi; M.Shahbazi ;A.Salimi. DOI: 10.1109/ICCKE65377.2024.10874515

An Explainable Method based on Sinc Filters to Diagnose Parkinson's Disease Severity by Gait Cycle Analysis *Discover Artificial Intelligence, Springer (SJR: Q1)*

Journal Article

- A.Salimi; M.Veisi; S.Berangi. DOI: 10.48550/arXiv.2502.17463

Microbursts Are Predictable: Early Indicators in Datacenter Traffic *CCR, ACM (SJR: Q1)*

Under Review

- M.Hosseini; A.Kanani; S.Berangi.

Academic and Research Experience

Robotics and Intelligent Autonomous Agents (RoIAA) Lab, SBU *Tehran, Iran*

Research Assistant *2023 – Present*

- Publications: Co-authored multiple papers with Dr. Salimi-Badr on RL, computer vision, and biomedical AI.
- Stock Trading Project: Developed a DRL framework (LSTM+PPO) with FinBERT sentiment embeddings for portfolio management, published in ICCKE 2024.
- Fuzzy-DoGNet Project: Designed a lightweight deep model with DoG-based feature extraction for traffic sign recognition, published in IEEE.
- SincPD Project: Proposed an explainable deep learning method using Sinc filters for Parkinson's disease severity diagnosis via gait analysis.

Shahid Beheshti University *Tehran, Iran*

TEACHING ASSISTANT

- Deep Reinforcement Learning, Dr.Salimi-Badr
- Fundamentals of Robotics, Dr.Salimi-Badr
- AI and Expert Systems, Dr.Salimi-Badr
- Signals and Systems Course, Dr. Salimi-Badr
- Principles of Compiler Design Course, Dr. Alidoost Nia
- Advanced Programming Course, Dr. AliAkbary
- Advanced Programming Course, Dr. Vahidi
- Formal Languages and Automata Theory Course, Dr. Ghavami Zadeh
- Introduction to Programming Course, Dr. AliAkbary

Work Experience

Hezar Makian Khazar *Rasht, Iran*

JUNIOR ML AND VISION ENGINEER *Jun. 2024 - Present*

- Developed computer vision pipelines using CNNs and transfer learning for image recognition and detection.
- Processed and curated large-scale image datasets for training and evaluation of ML models.
- Deployed machine learning applications on Linux-based embedded systems, ensuring reliable real-time operation.
- Designed and implemented a deep learning-based vision system for animal liveness detection using temporal and visual features.

Certificates

2023 **ML**, DeepLearning.ai
2023 **Deep Learning**, DeepLearning.ai
2023 **Django**, Meta
2022 **Advanced Python**, Shahid Beheshti University, Scientific Association of Computer Engineering
2022 **Introduction to Python**, Shahid Beheshti University, Scientific Association of Computer Engineering
2022 **Introduction to Linux**, Shahid Beheshti University, Scientific Association of Computer Engineering
2023 **Security Hackathon**, Quera
2022 **Front-End**, Shahid Beheshti University, Scientific Association of Computer Engineering

Honors & Awards

2024 **Finalist**, Nation Teach olympiad in Image processing *Iran*
2021 **top 0.5%**, ranking in the national university entrance exam (Konkur) *Iran*
2020 **Passing the first stage**, Qualified for the first stage of National Physics Student Olympiad *Iran*

Skills

TECHNICAL SKILLS

- Programming: Python, C/C++, Java, C Sharp.
- ML/DL Frameworks: PyTorch, TensorFlow, Scikit-learn.
- Computer Vision: OpenCV, CNNs, attention-based models.
- Reinforcement Learning: PPO, DQN, imitation learning.
- Robotics & Simulation: Webots, Gazebo, ROS; deployment on NVIDIA Jetson.
- Data Processing: NumPy, Pandas, MATLAB.
- Systems: Linux, Git, Docker, ONNX.

LANGUAGE SKILLS

- Proficient in English (IELTS 7.5).
- Native speaker of Persian.