Mohammad Javad Zandiyeh

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EDUCATION

Amirkabir University of Technology (Tehran Polytechnic) **Tehran, Iran**
Rank 3 Among All Iranian Universities in QS World University Rankings, 2024

- **B.Sc** in Computer Engineering, *Sep. 2019 – Apr. 2024 (Expected)*
  - Supervisor: Dr. Mostafa Haghir Chehreghani
  - Overall GPA: **18.28**/20 (**3.94**/4)

Shahid Qoddoosi High School **Qom, Iran**
Affiliated with National Organization for Development of Exceptional Talents (NODET)

- **Diploma** in Mathematics and Physics, *Sep. 2016 – Jun. 2019*
  - Overall GPA: **19.56**/20 (**4**/4)

RESEARCH INTERESTS

- Natural Language Processing
- Graph Neural Networks
- Deep Learning
- Information Retrieval
- Recommender Systems
- Data Mining

RELATED COURSES

- Data Structures and Algorithms (19.75 / 20)
- Algorithm Design (20 / 20)
- Applied Linear Algebra (18 / 20)
- Applications of AI (18.5 / 20)
- Computational Intelligence (18 / 20)
- Information Retrieval (18.73 / 20)
- ML with Graphs (Stanford CS224W)
- NLP with Deep Learning (Stanford CS224N)

HONORS AND AWARDS

- Among the **top 0.3%** of all applicants for the **Iranian University Entrance Exam** in Mathematics and Physics (**rank 174** among more than 60,000 applicants), *2019*
- Benefit from special facilities for **outstanding high school students** entering the university, *2019*
- Among the **top 3 students** in middle school and high school with numerous awards, *2013 – 2019*
- Among the **top 1%** of all applicants for admission to the **National Organization for Development of Exceptional Talents** (NODET), *2013*

RESEARCH EXPERIENCES

Amirkabir University of Technology

- **Research Assistant**, *Apr. 2023 – Present*
  - Researching **Fairness in Graph Neural Network Based Recommender Systems**
  - Supervisor: Dr. Mostafa Haghir Chehreghani
- **Research and Technical Presentation Course**, *Feb. 2022 – Jun. 2022*
  - Researching **Adversarial Attacks and Defences in Deep Learning** (link)
  - Lecturer: Dr. Reza Safabakhsh

WORK EXPERIENCES

Digikala.com **Tehran, Iran**
The biggest Iranian e-commerce company with over ten subsidiaries

- **Software Engineer** - Back-end Developer, *Jul. 2022 – Apr. 2023*
  - Skills: Big and Sensitive Data Management, Seamless Availability, Mastery of Team Collaboration
  - Tools: PHP, Symfony Framework, Docker, MySQL, Redis, Elasticsearch

Basalam **Qom, Iran**

- **DevOps Engineer** - Internship, *Jul. 2022 – Oct. 2022*
  - Skills: Agile Adaptation to Cutting-edge Innovations, Document Construction
  - Tools: Python, Django Framework, Docker, Kubernetes

TEACHING ASSISTANT EXPERIENCES

Amirkabir University of Technology

- **Microprocessor and Assembly Language** - Dr. Hamed Farbeh, *Jan. 2022 – Jun. 2022*
- **Algorithm Design** - Dr. Alireza Bagheri, *Sep. 2021 – Jan. 2021*
- **Electrical and Electronic Circuits** - Dr. Mahmoud Momtazpour, *Sep. 2021 – Jan. 2021*
- **Logic Circuits** - Dr. Mehdi Sedighi and Dr. Morteza Saheb Zamani, *Sep. 2021 – Jan. 2021*

VOLUNTEER WORKS

CWS 2022: Amirkabir Computer Webinar Series 2022

- **Research Team Member** - Theory and Algorithms, *May 2022 – Sep. 2022*

AAIC: Amirkabir Artificial Intelligence Competition

- **Executive Staff** - 7th Series, *May. 2023 – May. 2023*
- **Advertising Assistant and Executive Staff** - 6th Series, *Jan. 2022 – May 2022*

TECHNICAL SKILLS

- **Programming:** Python, C/C++, Java, PHP, MATLAB, PyTorch, PyG
- **Databases:** MySQL, PostgreSQL, Redis
- **Operating Systems:** macOS, Linux (Ubuntu), Microsoft Windows, xv6
- **Developer Tools:** JetBrains, Visual Studio Code, Atom, Jupyter Notebook, Google Colab, Kaggle
- **Miscellaneous:** Docker, Kubernetes, Git, Django REST Framework, LaTeX

CERTIFICATES

- **Neural Networks and Deep Learning** (link)
  - Issuing Organization: Coursera, DeepLearning.AI
- **Generative Adversarial Network** (link)
  - Issuing Organization: Amirkabir University of Technology, AAISS
- **Advanced Python Programming and Object-Oriented Thinking Course** (link)
  - Issuing Organization: Quera, Quera College
- **Software Engineering** (link)
  - Issuing Organization: Digikala.com, Quera.org

TOP ACADEMIC PROJECTS

- **Information Retrieval System** (link) This system, developed using Python and Elasticsearch, ranks documents based on their similarity to the queries by incorporating various ranking techniques.
- **Computational Intelligence Project** (link) This project contains three sections: neural networks, fuzzy systems, and neuro-evolutionary. The neural network was implemented from scratch without using predefined frameworks to learn the mathematics behind it. The fuzzy system was developed based on a hospital health system, and the neuro-evolutionary part was implemented with a tiny game with its interface.
- **Pacman** (link) This project is built upon Berkeley course projects designed for the implementation of single-agent search, multi-agent search, and reinforcement learning algorithms.

- **Applied Linear Algebra Projects** (link) Enhancement of the Bitcoin price diagram through the integration of an advanced noise cancellation system, coupled with the development of a bitmap image compressor leveraging linear algebra techniques.
- **Coin Price Notifier** (link) This system is used to fetch real-time coin prices and notify users about the corresponding price updates they have registered for. It was developed with a monolithic architecture using Docker, Kubernetes, Django, and React technologies.
- **xv6 Operating System** (link) In this project, thread handling, new system calls, and new CPU scheduling policies were added to the basic functionalities of the xv6 (an MIT-developed operating system). It is based on the C language and is emulated using QEMU on the Linux (Ubuntu) OS.

REFERENCES

- **Dr. Mostafa Haghir Chehreghani**, Assistant Professor at AUT
  - Email: mostafa.chehreghani@aut.ac.ir
- **Dr. Hossein Zeinali**, Assistant Professor at AUT
  - Email: hzeinali@aut.ac.ir
- **Dr. Alireza Bagheri**, Associate Professor at AUT
  - Email: ar_bagheri@aut.ac.ir
- **Dr. Mahmoud Momtazpour**, Associate Professor at AUT
  - Email: momtazpour@aut.ac.ir
- **Milad Teimouri**, Senior Software Engineer at Digikala Platform Team
  - Email: m.teimouri@digikala.com

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