Shahrzad Shashaani

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🔗 https://shahrzad-shashaani.github.io

🪪 Profile

A highly enthusiastic and motivated computer scientist who is contributed to artificial intelligence, machine learning, and deep learning projects. Sufficiently experienced and proficient in various programming languages and frameworks relevant to machine learning and deep learning.

I am interested in machine learning, deep learning, computer vision, and image processing with different learning methods such as supervised, unsupervised, self-supervised, and reinforcement learning.

🎓 Education

09/2020 – 12/2022 Tehran, Iran	**Master of Science in Artifitial Inteligence** *K. N. Toosi University of Technology* 🔗 World University Rankings 2021: 800-1000th, 2022: 1000-1200th 🔗 **GPA:** 4/4 (18.95/20) **Ranking:** 1st (Among ~25 Students) **Thesis Title:** Using Convolutional Neural Networks for Off-road Path Detection in Self-driving Cars **Supervisor:** Prof. Mohammad Teshnehlab 🔗
09/2016 – 09/2020 Tehran, Iran	**Bachelor of Science in Computer Engineering** *K. N. Toosi University of Technology* 🔗 World University Rankings 2021: 800-1000th, 2022: 1000-1200th 🔗 **GPA:** 4/4 (18.53/20) / **Last two years' GPA:** 4/4 (19.08/20) **Ranking:** 3rd (Among ~53 Students) **Thesis Title:** Hospital Data Analysis Using Nonlinear Regression and Fuzzy Neural Networks **Supervisor:** Prof. Mohammad Teshnehlab 🔗

📖 Publications

Network Intrusion Detection with Limited Labaled Data 🔗
Lotfi S, Modirrousta M, **Shashaani S**, Amini S, Aliyari Shoorehdeli M. **Network Intrusion Detection with Limited Labeled Data**. *Transaction on Knowledge and Data Engineering*. 2022.

Covid-19 Detection based on Blood Test Parameters using Various Artificial Intelligence Methods 🔗
Khanjani K, **Shashaani S**, Mehralian S, Jalaeian-Zaferani E, Teshnehlab M, Khodadadian A, Heitzinger C, Nadji A, *et al.*. **Covid-19 Detection based on Blood Test Parameters using Various Artificial Intelligence Methods**. *Advances in Precision Nutrition, Personalization, and Healthy Aging (Springer)*. 2022;19:506-532.

Rapid COVID-19 Screening Based on the Blood Test using Artificial Intelligence Methods 🔗
Mehralian S, Jalaeian Zaferani E, **Shashaani S**, Kashefinishabouri F, Teshnehlab M, Sokhandan HA, Dibaji Forooshani ZS, Montazer B, Joneidi Z, Vafapeyvand M. **Rapid COVID-19 Screening Based on the Blood Test using Artificial Intelligence Methods**. *Journal of Control*. 2021 Feb 10;14(5):131-40.

📚 Teaching Experience

2022 – present Tehran, Iran	**Teaching Assistant** *Neural Networks* Artificial Intelligence Department, K. N. Toosi University of Technology 🔗 **Instructor:** Prof. Mohammad Teshnehlab 🔗
2022 Tehran, Iran	**Teaching Assistant** *Deep Learning* Artificial Intelligence Department, K. N. Toosi University of Technology 🔗 **Instructor:** Prof. Mohammad Teshnehlab 🔗
2021 Tehran, Iran	**Teaching Assistant** *Neural Networks* Artificial Intelligence Department, K. N. Toosi University of Technology 🔗 **Instructor:** Prof. Mohammad Teshnehlab 🔗
2019 Tehran, Iran	**Teaching Assistant** *Algorithm Design* Computer Engineering Department, K. N. Toosi University of Technology 🔗 **Instructor:** Dr. Amin Nikanjam 🔗

💼 Professional Experience

2019 – present Tehran, Iran	**Research Assistant** K. N. Toosi ISLAB(Intelligent Systems Laboratory) **Main Experience** • Worked as a member of the COVID-19 diagnosis project • Worked as a member of the path detection project **Reference:** Prof. Mohammad Teshnehlab 🔗

2020 – 2022
Tehran, Iran
	Team Member of SR2119 Social Robot Developing Project
	AICell Startup 🔗
	Main Experience
	• Machine Vision
	  • Face Detection and Recognition
	  • Face Tracking
	  • Age-Gender Estimation
	Catalog Link: SR2119 Robot 🔗
	Reference: Mr. Sajjad Amini 🔗

2019 Tehran, Iran	**Internship** Assessment of Electronic Health Record System of Iran Health Organization, Iran Telecommunication Research Center(ITRC) 🔗 **Main Experience** • Testing Electronic Health Record System (SEPAS) • Developing Record Comparator Tool with Python **Reference:** Mr. Mohammad Azadnia 🔗
2018 Tehran, Iran	**Part Time Developer** Android Application, Arena Group **Main Experience** • Developing Android Program for Students Curriculum Management **Download Link:** Sakoo App 🔗

⌨ Courses

Master
- Machine Learning (4/4)
- Deep Learning (4/4)
- Machine Vision (4/4)
- Evolutionary Computing (4/4)
- Multi-agent Systems (4/4)
- Pattern Recognition (3/4)

Bachelor
- Foundations of Computer Vision (4/4)
- Graph Theory and Algorithms (4/4)
- Embedded and Real-Time Systems (4/4)
- Data Structure (4/4)
- Database (4/4)
- Algorithm Design (3/4)
- Artificial Intelligence and Expert Systems (3/4)

🏅 Honors, Awards and Grants

2020 – 2022	**Ranked 1st (out of ~25 Students)** MSc Degree, Artificial Intelligence Department, K. N. Toosi University of Technology
2020 – 2022	**Received Full Tuition Fee Waiver Scholarship** *K. N. Toosi University of Technology*
2020	**Credited for M.Sc. Degree** K. N. Toosi University of Technology
2020	**Won the 3rd Place in the Problem Solving Competitions of Shahid Babaei Project** Smartization Field, Iran National Elite Foundation (Rah Neshan)
2018 – 2020	**Included in Dean's List for 3 Semesters** K. N. Toosi University of Technology
2017 – 2020	**Recieved Excellent Students Scholarship, Kanoon Farhangi Amoozesh** K. N. Toosi University of Technology
2016 – 2020	**Ranked 3rd (Out of ~53 Students)** BSc Degree, Computer Engineering Department, K. N. Toosi University of Technology
2016 – 2020	**Received Full Tuition Fee Waiver Scholarship** K. N. Toosi University of Technology
2016	**Ranked within the top 1% of Iranian University Entrance Exam for Bachelor's Degree**
2012	**Won the 2nd place in the Karate(Kata) championship in provincial competitions**

📁 Projects

2020 – 2022	**Using Convolutional Neural Networks for Off-road Path Detection in Self-driving Cars** *The Master's Thesis* • Using off-road datasets • Developing a layer-wise train for CNNs

2021	**Edeg detection using PiDiNet**
	Final project of Machine Vision

- Inspired by an article named pixel difference networks for efficient edge detection 🔗
- PiDiNet was a Deep CNN which uses both traditional edge detection operators and Convolutional operations at the same time.

2020	**Hospital Data Analysis Using Nonlinear Regression and Fuzzy Neural Networks**
	The Bachelor's Thesis

- Using blood test results for COVID-19 detection
- Speeding up the process and reducing the price of COVID-19 detection

2020	**Persian-Handwriting-Recognition tool for a specific type of form**
	Final project of Computer Vision course

- Collecting a small dataset of Persian handwritten letters and digits
- Detecting information parts of the form using OpenCV contours
- Training two separate CNNs to classify handwritten Persian letters and digits
- Giving extracted contours to trained CNNs and showing predicted results

Skills

Deep Learning Libraries and Frameworks
Pytorch/ TensorFlow/ Keras

Machine Learning Libraries and Frameworks
scikit-learn / OpenCV / Dlib / mediapipe

Programming Languages and Tools
Python / Java / MATLAB / Weka / C / C++ / C# / Android / VHDL / Verilog

Other Libraries and Frameworks
Numpy / Pandas / Matplotlib / SystemC / SFML / JavaFX

Database
MySQL / Microsoft SQL Server

Computer Engineering
Git / Linux / Agile Development

Web Development
HTML / CSS / JS / JQuary / Bootstrap / PHP / Laravel / Flask

Languages

Engilsh
IELTS: 7.5 (Speaking:7 | Listening:7.5 | Reading:8.5 | Writing:6.5)

Persian
Native

Arabic
Elementary proficiency

References

Dr. Mohammad Teshnehlab, *Professor*, K. N. Toosi University of Technology, Tehran, Iran
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Dr. Ali Ahmadi, *Associate Professor*, K. N. Toosi University of Technology
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Dr. Babak Nasersharif, *Assistant Professor*, K. N. Toosi University of Technology
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Dr. Saeed Farzi, *Assistant Professor*, K. N. Toosi University of Technology
saeedfarzi@kntu.ac.ir, (+98)-21-84062-414

🎸 Interests

Working out, Drawing, Watching movies and TV series, Listening to music or podcast