

Shahrzad Shashaani

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🔗 <https://shahrzad-sh.github.io/Shahrzad-Shashaani.github.io/> 🌐 <https://github.com/Shahrzad-sh>

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 Artificial Intelligence


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 Labeled 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, Jalaiean-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, Jalaiean 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 <i>Neural Networks</i> Artificial Intelligence Department, K. N. Toosi University of Technology ↗ Instructor: Prof. Mohammad Teshnehlab ↗
2022 Tehran, Iran	Teaching Assistant <i>Deep Learning</i> Artificial Intelligence Department, K. N. Toosi University of Technology ↗ Instructor: Prof. Mohammad Teshnehlab ↗
2021 Tehran, Iran	Teaching Assistant <i>Neural Networks</i> Artificial Intelligence Department, K. N. Toosi University of Technology ↗ Instructor: Prof. Mohammad Teshnehlab ↗
2019 Tehran, Iran	Teaching Assistant <i>Algorithm Design</i> 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 <ul style="list-style-type: none">• 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 <ul style="list-style-type: none">• Machine Vision<ul style="list-style-type: none">• 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 <ul style="list-style-type: none">• 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 <ul style="list-style-type: none">• 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 <i>K. N. Toosi University of Technology</i>
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	Received 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 <i>The Master's Thesis</i> <ul style="list-style-type: none">• Using off-road datasets• Developing a layer-wise train for CNNs
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2021

Edeg detection using PiDiNet

Final project of Machine Vision

- Inspired by an article named pixel difference networks for efficient edge detection [!\[\]\(633dd45d48d71eb51a85c6dd83ee51e9_img.jpg\)](#)
- 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

Programming Languages and Tools

*Python / Java / MATLAB / Weka / C / C++ / C# / Android /
VHDL / Verilog*

Computer Engineering

Git / Linux / Agile Development

Web Development

*HTML / CSS / JS / JQuery / Bootstrap / PHP / Laravel /
Flask*

Machine Learning Libraries and Frameworks

scikit-learn / OpenCV / Dlib / mediapipe

Other Libraries and Frameworks

Numpy / Pandas / Matplotlib / SystemC / SFML / JavaFX

Database

MySQL / Microsoft SQL Server



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
teshnehlab@eetd.kntu.ac.ir, (+98)-021-84062323

Dr. Ali Ahmadi, Associate Professor, K. N. Toosi University of Technology
ahmadi@kntu.ac.ir

Dr. Babak Nasersharif, Assistant Professor, K. N. Toosi University of Technology
bnasersharif@kntu.ac.ir, (+98)-021-84062268

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