

Javad Sheikh

🌐 Personal Website
☎ +98-919-7317-364

✉ javad2n@aut.ac.ir
🆔 0000-0001-6474-1674

🌐 linkedin.com/in/javad-sheikh
🐙 github.com/javad-sheikh

Education

Amirkabir University of Technology

Tehran, Iran

M.Sc. in Computer Engineering, Minor in Artificial Intelligence and robotics

Sep. 2018 – Sep. 2021

- **Thesis:** “Anomaly detection on time series using deep neural networks.”
- **Advisor:** Prof. Safabakhsh

Amirkabir University of Technology

Tehran, Iran

B.Sc. in Biomedical Engineering, Minor in Bioelectrics

Sep. 2013 – Sep. 2018

- **Thesis:** “Design and Implementation of mobile room lighting control equipment for patients with paraplegic patients.”
- **Advisor:** Dr. Ahmadi Pajouh

Shahid Beheshti Highschool

Gorgan, Iran

Diploma in Mathematics and Physics Discipline

Sep. 2009 – Sep. 2013

- Under the supervision of NODET (National Organization for Developing Exceptional Talents)

Publications

Journal Papers:

- Karimzadeh R., **Sheikh J.**, Azarnoush H., Arabi H.; *Design and implementation of brain surgery bipolar electrocoagulation simulator using haptic technology* (to be submitted)
- Sheikh V., RezaeiMoghaddam H., Jafary R., Gholami Z., **Sheikh J.**; 2020; *Design, construction and performance evaluation of an automatic weighing lysimeter.*; Water and Irrigation Management; 10(1); pp.61-73.
DOI: dx.doi.org/10.22059/jwim.2020.294404.738
- Nazarimehr F., **Sheikh J.**, Ahmadi M.M., Pham V.T., Jafari S.; 2018; *Fuzzy predictive controller for chaotic flows based on continuous signals.*; Chaos, Solitons & Fractals; 106; pp.349-354.
DOI: doi.org/10.1016/j.chaos.2017.12.005

Book chapter:

- Abouie V., SalarAmoli M., Faghihi F., **Sheikh J.**, Sadeghi P., et al.; 2021; Medical Equipment Book, chapter: *Sutures and surgical instruments*

Selected Academic Projects

Tracking moving object in video | Python, OpenCV

- Extracting key points using Brief, Freak, Surf, and Sift
- Following key points utilizing RANSAC and Least Median

Generative Adversarial Network | Python, Tensorflow, Google Colab, Gradient Tape

- Generation cat and dog pictures with GAN network using the cats and dogs data set

Semantic Segmentation | Python, Tensorflow, Google Colab, CNN

- Semantic segmentation of KITTI data set using convolutional neural networks

Machine Translation | *Python, Tensorflow, LSTM, GRU, Attention*

- Designed an Encoder-Decoder Recurrent Neural Network model with attention for Deutsch to English translation

Fuzzy Neural Network | *Python*

- Estimation of Mackey-Glass time series with a fuzzy neural network

Machine learning Projects | *Python, scikit-learn*

- Clustering tasks using Kmeans, DB-Scan and Hierarchical clustering
- Classification with KNN with k found using K—fold-cross-validation
- Classification with C4.5, CART, ID3 Decision Trees
- Classification with Random Forest
- Classification of car evaluation data set with Naive Bayes and Logistic Regression
- Classification of handwritten digits data set with SVM

Parameter Estimation | *Matlab, Optimization*

- Parameter Estimation of the Rulkov Neuron Map using Interior search algorithm)

Working Experience

freelance AI engineer

Apr. 2019 – Present

Retinopathy detection App Development

- Preprocessed retina images from Kaggle Diabetic Retinopathy data set
- retrained DenseNet-169 on a data set previously preprocessed
- Developed AI mobile application to detect diabetic retinopathy

Time series forecasting

- Deployed different forecasting methods like Arima, Sarima, and recurrent neural networks

Artificial Intelligence App Developer

Sep. 2018 – Mar. 2019

AI engineer at Sibbank

Tehran

- Researched and assessed different mobile compatible deep learning structures
- Used transfer learning to retrain Mobilenet-192
- Developed AI mobile application to read credit card number and expiration from images taken with mobile camera

Teaching Experience

Software Tutor | *Python, Tensorflow, Google Colab*

Spring 2019

- Department of Computer Engineering, Amirkabir University of Technology

Software Tutor | *MATLAB, Simulink*

Spring 2015

- Department of Biomedical Engineering, Amirkabir University of Technology

Languages

English (*IELTS Academic CEFR level: C1*)

Listening: 8.5, Reading: 8.5, Writing: 6.5, Speaking: 7

German (*Elementary*)

Technical Skills

Programming Languages:	Python, Java, Matlab, C/C++, SQL, JavaScript, HTML/CSS
Developer Tools:	Visual Studio Code, Android Studio, Google Colab, Kaggle
Version Control:	Git, GitHub, GitLab
Selected Python Libraries:	Tensorflow, Pytorch, OpenCV, Pandas, NumPy, Matplotlib, Scipy, Scikit-Learn
Typesetting:	T _E X, Word
Operating Systems:	Windows, Ubuntu

Honors & Awards

M.Sc. National University Entrance Exam

- Achieved the 87th place in the national M.Sc entrance exam in Computer Engineering

B.Sc. National University Entrance Exam

- Ranked in the top 0.5% among 251,000 students in the national university entrance exam in mathematics and physics discipline

B.Sc. National University Entrance Exam

- Ranked in the top 5% among 10,000 students in the national university entrance exam in foreign languages discipline

High School Olympiad

- being accepted at the first stage of national Chemistry Olympiad (2011)

Research Interests

- Machine Learning
- Artificial Neural Networks
- Biologically Plausible Neural Networks
- Anomaly Detection
- Computer Vision
- Medical Image Analysis

References

Prof. Safabakhsh, Department of Computer Engineering, Amirkabir University of Technology

Email: safa@aut.ac.ir

Asst. Prof. Nazerfard, Department of Computer Engineering, Amirkabir University of Technology

Email: nazerfard@aut.ac.ir

Assoc. Prof. Jafari, Department of Biomedical Engineering, Amirkabir University of Technology

Email: sajadjafari@aut.ac.ir