Seyed Mohammad Hoseyni

Graduated Engineer , AI & Image processing, Tehran, IRAN

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EDUCATION

○ **Bachelor's Degree: Electrical and Control Engineering**   2019–2024
  K. N. Toosi University of Technology   *Tehran-IRAN*
  - Thesis: Developing AI-assisted Software for the Classification and Segmentation of intracerebral hemorrhage.
  - Advisor & Supervisor: Dr. Amirhossein Nikoofard & Dr. Mahdi Aliyari-Shoorehdeli
  Grade: 18.4/20
  Ranked 6th in the Entrance

○ **Minor's Degree: Computer Engineering**   2019–2024
  K. N. Toosi University of Technology   *Tehran-IRAN*

SKILLS

Programming/Scripting
○ Python/OpenCV
  - PyTorch/CUDA
  - Tensorflow
  - Sklearn
  - Pandas
  - NumPy
  - Seaborn
○ C/C++
○ Java/MATLAB
○ SQL
○ LaTeX

Domain Knownledge
○ AI & Computer Vision
○ Deep Learning
○ Machine Learning
○ Data Science
○ Natural Language Processing (NLP)
○ Mechatronics
○ Instrumentation
○ Control Engineering

in More information on My LinkedIn Page (click here).

EXPERIENCES

○ 🌙 SmarTeeth Startup | Smartory Startup   2023–Present
  Research and Development Manager (AI, Computer Vision & Software Development)

○ APAC AI & Control | Hazrat Rasul Akram Hospital | Amir-Alam Hospital   2022–Present
  Computer Vision Engineer & Data Scientist

  - **Interacerbal Hemorrhage:** Develop and establish AI-assisted software to classify, segment, and quantify hemorrhagic lesions. Gathering data and managing the medical team for proper annotation.
  - **Otorhinolaryngology:** Technical manager for conceptualization, feasible study, and data gathering.

○ Mechatronics and Biomechatronics Lab   Apr2022–Oct2022
  Research Assistant

ACADEMIC EXPERIENCES

Teaching Assistant:
- ⚙ Design and Analyse Digital Systems 1, Dr. Mehdi Delrobaei   July - 2023
- ⚙ Numerical Calculations, Dr. Amirhossein Nikoofard   July - 2023

SELECTED PROJECTS

- ⚛ Annual competition of artificial intelligence for classification of abnormal brain in MRI radiography

- ⚙ programming Kolmogorov-Arnold Networks (KAN) and perform a comprehensive grid search on Mnist, Cifar10 and Physionet-ICH datasets

- ⚙ Programming an Arduino and max-30100 pulse-oximeter module to measure blood oxygen and heart rate

- ⚙ Simulation of a suspension system and control it with a PID

- ⚙ Program a communication protocol to perform synchronized data transmission between two micro-controller

- ⚙ Designing an analog small signal amplifier

PUBLICATIONS

☁ Advanced Deep Learning-Based Approach for Tooth Detection, and Dental Cavity and Restoration Segmentation in X-Ray Images , 2023.

☁ AugmenTory: A Fast and Flexible Polygon Augmentation Library, 2024.

☁ Comprehensive Hyperparameter Tuning to Enhance Deep Learning Performance for Intracranial Hemorrhage Classification in Head CT Scans, under review.

☁ Two-Stage Deep Learning Approach with Novel Dataset and Advanced Post-Processing for Enhanced Intracranial Hemorrhage Segmentation, pre-print.

🎓 More information on My Scholar Page (click here).

Certificates

- Ⓒ Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization
- Ⓒ Neural Networks and Deep Learning
- 🔶 SQL Intermediate

SELECTED COURSE

Graduate
- Machine Learning
- Biomechatronic Systems

Undergraduate
- Artificial Intelligence
- Fundamental of Mechatronics
- Advance Computer Programming
- Linear Algebra
- Numerical Methods
- Data Structure
- Algorithm Design
- Linear Control Systems
- Signal and Systems
- Engineering Probability
- Instrumentation
- Modern Control
- Industrial Control

❶ References, Further information, and Proofs are available upon Request.

References

- Dr. Amirhossein Nikoofard

- Dr. Mahdi Aliyari-Shoorehdeli

- Dr. Mohammad Javad Ahmadi

- Dr. Mehdi Delrobaei