S.M.H. Hosseini

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EDUCATION

University of Tehran Tehran, Iran
B.Sc. in Electrical and Computer Engineering, GPA: 3.6 (17.16/20) 2016–2021
- Thesis: "Single-view 3D Reconstruction of Surface of Revolution"

EXPERIENCE

Research Assistant at NBML Tehran, Iran
Implementing a data-driven framework for Fiber Tractography 2021 - 2022
- Proposing a novel convolutional + transformer model to estimate fODF from MRI data
- Introducing an automatic end-to-end tractography pipeline

Research Intern at Daha Tech Tehran, Iran
Developing a wireless indoor positioning system using BLE antennas Summer 2019
- Implementing real time locating system (RTLS) using Kalman filter and clustering algorithms

PUBLICATIONS

1. S.M.H. Hosseini, M. Hassanpour, S. Masoudnia, S. Iraji, S. Raminfard, M. Nazem-Zadeh, "CTtrack: A CNN+Transformer-based framework for fiber orientation estimation & tractography," *Neuroscience Informatics*.

2. S.M.H. Hosseini, S.M. Nasiri, R. Hosseini, H. Moradi, "Single-view 3D Reconstruction of Surface of Revolution," *Pattern Recognition Letters*, to be submitted.

TEACHING

- **Student Teaching Assistant** at University of Tehran Fall 2020
  Linear Control System
- **Student Teaching Assistant** at University of Tehran Fall 2019
  Engineering Mathematics
- **Student Teaching Assistant** at University of Tehran Fall 2020
  Industrial Control

SKILLS

- **Programming:** Python, Matlab, C/C++
- **M. Learning:** TensorFlow, Google Colab
- **Tools/Techs:** LaTeX, Ubuntu
- **Hardware/System Design:** AVR, Proteus, Simulink, Altium Designer

LANGUAGES

- **English:** Proficient - TOEFL iBT score: 108/120
- **Persian:** Native language

Projects

- **Transformer-based Framework for Fiber Orientation Estimation & Tractography**
Research Assistant (Python, 2021)

- **Single-view 3D Reconstruction of SOR**
Bachelor's Thesis (Matlab, 2021)

- **Voice Gender Classification**
Pattern Recognition (Python, 2020)

- **Route Optimization**
Operational Research (Python, 2019)

- **Text Generator**
Neural Network (Python, 2020)

- **Movie Server**
Advanced Programming (C++, 2019)

- **Super Mario Game**
Advanced Programming (C++, 2019)

- **Survey of Feature Selection Algorithms**
Pattern Recognition (Python, 2020)

- **Decision Tree Classifier**
Intelligent Systems (Python, 2019)

- **YOLOv5 fine-tuning to detect chess pieces**
Neural Network (Python, 2020)

References

- **Prof. Reshad Hosseini**   Tehran, Iran

  Assistant Professor at Electrical and Computer Engineering School, University of Tehran, Director of Computational Audio-Vision Lab

- **Prof. Mohammad-Reza Nazem-Zadeh**   Tehran, Iran

  Assistant Professor at Tehran University of Medical Science, Member of Advanced Medical Technologies and Equipment Institute

- **Dr. Masoud Hassanpour**   Tehran, Iran

  Researcher at the Molecular and Cellular Imaging Center, Advanced Medical Technologies and Equipment Institute (AMTEI), Tehran University of Medical Sciences

- **Prof. Manouchehr Moradi**   Tehran, Iran

  Associate Professor at Electrical and Computer Engineering School, University of Tehran, Director of Advanced Robotics and Intelligent Systems Lab

- **Prof. Fariba Bahrami BoodeLalou**   Tehran, Iran

  Associate Professor at Electrical and Computer Engineering School, University of Tehran, Director of Human Motor Control and Computational Neuroscience Lab