Hossein Fathollahian

Curriculum Vitae

Telecommunication and Electronics Engineering
Electrical and Computer Engineering Department
Shahid Beheshti University of Tehran, Iran

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Research Interests

Image Processing	• Image and Video Recognition • Medical Image Feature Extraction and Analysis
Machine Learning	• Supervised, Unsupervised, and Reinforcement Learning • Deep Neural Networks
Computer Vision	• Video Tracking • 3D Pose Estimation • Motion Estimation

Work Experiences

- **MENIC.Co - Since 2016**

Telecommunication, Control, and Instrumentation Engineer & Member of R&D Committee	Design, Consultation, and Execute Telecommunication, Control and Instrumentation Projects at Industrial Plants and Building • Hardware Knowledge: CCTV, Telephone, Speakers, Fire Alarms, Paging, Computer Network, PLC 300-400-1200 Series • Software Knowledge: Programming Projects with STEP7, WinCC, MATLAB and Python

- **Hamgam Gostar.Co - 2012 to 2014**

Low Voltage Electrical Engineer	Design Electrical System for Residential Building • Electrical Power System, Lighting, BMS, Fire alarms

- **Shahid Beheshti University Image Processing Lab - 2011 to 2012**

Programmer in Image Processing Laboratory	MATLAB and Python Programmer • Image and Video Feature Extraction • Pattern Recognitions in textiles and Painting Quality Measurement

Teach Experiences

Teaching Assistant	• Logic Circuit Lab, Shahid Beheshti University, (Supervision: Dr. Somayeh Timarchi) • Electronic Lab, Semnan University, (Supervision: Dr. Saeed Mozaffari) • Electromagnetic, Semnan University, (Supervision: Prof. Pejman Rezaei) • Engineering Mathematics, Semnan University, (Supervision: Prof. Pejman Rezaei)
Instructor	• MATLAB Programming • Python Programming • Webpage Designing

Education

M.Sc. in Telecommunication Engineering
- Shahid Beheshti University, Sep 2010 - Dec 2012
- GPA: 3.91, Faculty Rank: 2nd Among 33 Entrances
- Electrical and Computer Engineering Department/Telecommunication

Thesis Title: Video Compression with Singular Value Decomposition (SVD)
- Studied the application of the SVD approach and its variants, including the Tucker singular value decomposition (TSVD), for dimensionality reduction, in general, and particularly, for video compression.
- Introduced several techniques, such as adaptive TSVD and sensitivity parameter, for efficiently compressing video data from three-dimensional blocks while reducing the information loss.

B.Sc. in Electronics and Communications Engineering
- Semnan University, Sep 2006 - Sep 2010
- GPA: 3.69, Faculty Rank: 2nd Among 70 Entrances
- Electrical and Computer Engineering Department/ Electronics

Thesis Title: Wireless Transceiver Implementation with the RFM12 Module and ATEMEGA Processor.
- Developed a wireless communication system to send and receive data in various formats, such as text and audio.
- The accuracy and performance was evaluated by connecting a keyboard to the transmitter and monitoring the received characters in the receiver end.

Selected Courses

- Digital Image Processing (A$^+$)
- Advanced Channel Coding (A$^+$)
- Digital Signal Processing (A)
- Adaptive Filter (A$^+$)
- Computer Graphics (A$^+$)
- Computer Network (A$^+$)
- Programming C++ (A$^+$)
- Telecommunication Network (A$^+$)

Workshop and Certificate

	Workshop	Certificate Date	Educational Institution	Duration (hours)
1	Machine Learning	2022	Ghazvin University	48
2	Pattern Recognition	2021	Ghazvin University	48
3	PLC-Omron, Siemens	2020	Iran-Omron Institute	40
4	Revit	2020	Kavoosh Institute	60
5	CCNA Security	2019	FAVA institute	25
6	CCNA	2018	Cybertech-Tehran, Iran	80
7	Network +	2014	Cybertech-Tehran, Iran	40
8	Fountain Codes	2013	Prof. A.Shokrollahi- University of Tehran	12

Skill

1. Programming Language
2. General Software
3. Control Systems Software
4. Electrical Systems Software
5. Web Development
6. Professional Skills

- Python, MATLAB, C++
- Microsoft Office, LATEX
- Step 7, WinCC, SIMATIC Manager
- EPLAN, Revit, DIALUX, AutoCAD
- WordPress, Wireshark, Packet Tracer
- Teaching, Leadership, Problem Solving, Teamwork

Publication

- Video quality measurement based on 3-D. Singular value decomposition. Journal of Visual Communication and Image Representation. Volume 27, February 2015, Pages 1-6. https://doi.org/10.1016/j.jvcir.2014.12.004.

English Proficiency

• **TOEFL** (Test of English as a Foreign Language) September 2022, **Total Score: 105**
Reading: 29   Listening: 26   Speaking: 24   Writing: 26

• **GRE** (Graduate Record Examination) General, September 2022, **Score: 327**
Verbal: 164 - Quantitative: 163 - Analytical: 3.5

Honors and Awards

- Ranked 2nd among M.Sc. Students in Electrical Engineering Department, Shahid Beheshti University. (Fall 2012)
- Ranked 2nd among B.Sc. Students in Electrical Engineering Department, Semnan University. (Summer 2010)

References

1- Dr. Farah Torkamani-Azar Associate Professor (Shahid Beheshti University, Iran) f-torkamani@sbu.ac.ir
2- Dr. Saeed Mozaffari Research Associate (University of Windsor, Canada) saeed.mozaffari@uwindsor.ca
3- Prof. Pejman Rezaei Professor (Semnan University, Iran) prezaei@semnan.ac.ir