

Personal Information

- Name: Ebrahim Nasr Esfahani
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Education

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| Sep. 2012 – Sep. 2018 | Isfahan University of Technology, Isfahan, Iran <ul style="list-style-type: none">• Ph.D. in Computer Engineering• GPA=19.2/20• Thesis: “Segmentation of Medical Images Using Convolutional and Dense Fully Convolutional Networks” |
| Sep. 2004 – Feb. 2007 | Isfahan University of Technology, Isfahan, Iran <ul style="list-style-type: none">• M.Sc. in Electrical Engineering-Electronics• GPA=17.09/20• Thesis: “Near-Lossless Compression of Microarray Images” |
| Sep. 1999 – Jul. 2003 | Islamic Azad University of Najafabad, Isfahan, Iran <ul style="list-style-type: none">• B.Sc. in Electrical Engineering-Electronics• GPA=15.28/20• Project: “Wireless Controllable Robot” |

Publication(Journals)

E. Nasr-Esfahani , S. Rafiei, M. H. Jafari , N. Karimi, B.K. Nallamothu, S. Samavi and S.M.R. Soroushmehr, “***Dense pooling layers in fully convolutional network for skin lesion segmentation***”, Computerized Medical Imaging and Graphics 78, 101658, 2019.

E. Nasr-Esfahani , N. Karimi , M. H. Jafari , S.M.R. Soroushmehr, S. Samavi, B.K. Nallamothu and K. Najarian, “***Segmentation of Vessels in Angiograms Using Convolutional Neural Networks***”, Biomedical Signal Processing and Control Journal, 2018.

MH. Jafari, E. Nasr-Esfahani, N. Karimi, SMR. Soroushmehr and S. Samavi, “***Extraction of skin lesions from non-dermoscopic images for surgical excision of melanoma***”, International Journal of Computer Assisted Radiology and Surgery, 2017.

N. Karimi, S. Samavi, S. Shirani and E. Nasr-Esfahani, “***Real-time Lossless Compression of Microarray Images by Separate Compaction of Foreground and Background***”, Journal of Computer Standards Interfaces 39,34-43, 2015.

A. Banaei, S. Samavi and E. Nasr-Esfahani, “***Lossless Microarray Image Compression Based on Foreground Separation***”, Iranian Journal of Elect. & Electronic Engineering (IJEET), 2007.

Publication(Conferences)

S. Rafiei, E. Nasr-Esfahani, K. Najarian, N. Karimi and S. Samavi, “***Liver Segmentation in CT Images Using Three Dimensional to Two Dimensional Fully Convolutional Network***”, IEEE International Conference on Image Processing, 2018.

E. Nasr-Esfahani, S. Samavi, N. Karimi, S. Soroushmehr, K. Ward, M. Jafari, B. Felfeliyan and K. Najarian, “***Vessel Extraction in X-Ray Angiograms Using Deep Learning***”, Conference: 38th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, USA, 2016

E. Nasr-Esfahani, S. Samavi, N. Karimi, S. Soroushmehr, M. Jafari, K. Ward and K. Najarian “***Melanoma Detection by Analysis of Clinical Images Using Convolutional Neural Network***”, 38th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, USA, 2016

MH. Jafari, N. Karimi, E. Nasr-Esfahani, S. Samavi, SMR. Soroushmehr, K. Ward and K. Najarian, “***Skin lesion segmentation in clinical images using deep learning***”, Pattern Recognition (ICPR), Spain, 2016

F. Shafieyan, N. Karimi, E. Nasr-Esfahani and S. Samavi, “***Image Seam Carving Based on Content Importance and Depth Maps***”, The 22nd Iranian Conference on Electrical Engineering, Tehran, Iran, 2014.

E. Nasr-Esfahani, S. Samavi, N. Karimi and S. Shirani, “***Near Lossless Image Compression by Local Packing of Histogram***”, The 33rd International Conference on Acoustics, Speech, and Signal Processing, USA, 2008.

E. Nasr-Esfahani, S. Samavi, S. Shirani and N. Karimi, “*Near-Lossless Image Compression Based on Maximization of Run Length Sequences*”, IEEE International Conference on Image Processing, USA, 2007.

A. Banaei, S. Samavi and E. Nasr-Esfahani, “*Lossless Microarray Image Compression based on Foreground Extraction*”, Proceedings of the IEEE CCECE, Canada, 2006.

A. Neekabadi, N. Karimi, E. Nasr-Esfahani, A. Razavi and S. Samavi, “*Lossless Compression of Mammographic Images by Chronological Sifting of Prediction Errors*”, IEEE, Pacific Rim Conference on Communications, Computer and Signal Processing, 2007.

A. Neekabadi, N. Karimi, E. Nasr-Esfahani, A. Razavi and S. Samavi, “*Lossless Compression of Mammographic Images through Consecutive Segregation*”, 15th Iranian Conference on Electrical Engineering, Tehran, Iran, 2007.

S. Samavi, A. Neekabadi, E. Nasr-Esfahani, R. Amir-Fatahi and A. Razavi, “*Lossless Compression of ECG Signals by Two dimensional Prediction*”, 15th Iranian Conference on Electrical Engineering, Tehran, Iran, 2007.

Research Interests

Image and Video processing
Machine Learning
Hardware design for image processing algorithms
Biomedical Image processing
Analysis and design of microelectronic circuits
Programmable hardware (FPGA)
RF and high frequency circuits

Teaching Experience

Teaching as an instructor in Isfahan University of Technology (2015 – Present)
Teaching as an instructor in Shahrekord University (2016 – Present)
Teaching as an instructor in Islamic Azad University-Najafabad branch (2007 – 2008)
Teaching as an instructor in Islamic Azad University-Meymeh branch (2008 – 2009)
Teaching as an instructor in Sepahan nonprofit higher education institute (2009 – Present)

Teaching Interest

Micro Processors
VHDL
Computer Architecture
Digital Circuit
VLSI
DSP
Image Processing
Machine Learning

Academic Experience

Paper Reviewer of the 10th Iranian Student Conference on Electrical Engineering (ISCEE), September 2007, Isfahan University of Technology, Isfahan, Iran

VLSI Circuits Design final project: “Design and Implementation of a 4-bit Low Power ALU”, using L-Edit and H-Spice (working with CMOS 0.6mm technology)

Hardware Design Lab – Isfahan University of Technology (Jun 2006 – Apr 2008)

Language Skill

TOEFL(PBT) 560 on October 2011

Computer Packages and Languages

Software Packages

- Active-HDL (Simulation of hardware)
- Tanner (L-Edit, Layout design for VLSI circuits)
- Xilinx-ISE (Synthesis of circuits on programmable chips)
- MATLAB and Simulink
- H-spice
- P-spice
- OrCAD
- μ w office (Simulation of high frequency circuits)
- PSIM (Simulation of power electronic circuits)
- BASCOM and Code vision-AVR for programming AVR microcontrollers
- IAR (programming ARM chip)
- Protel

Programming Languages

- VHDL (Hardware simulation)
- MATLAB (Image processing)
- C++
- C#
- Pascal
- Java
- Delphi
- PHP
- Python