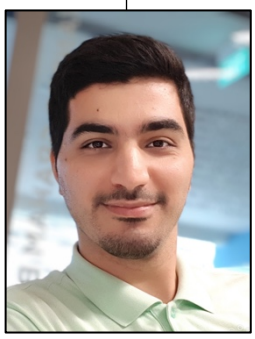
CURRICULUM VITAE



Milad Abdollahzadeh

Postdoctoral Research Fellow

ST Engineering – SUTD Cyber Security Laboratory

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Education

2013-2018 **Ph.D., Electrical Engineering, University of Tabriz**
Thesis: "Video Communication Over Wireless Multimedia Sensor Networks"
Supervisor: Prof. Hadi Seyedarabi

2011-2013 **M.Sc., Electrical Engineering, University of Tabriz**
Thesis: "Multi-focus Image Fusion Using Statistical Analysis"
Supervisor: Prof. Hadi Seyedarabi

2007-2011 **B.Sc. Electrical Engineering, University of Tabriz**
Final dissertation: "Automatic Vehicle Recognition"
Supervisor: Prof. Hadi Seyedarabi

Research Experience

09/11-04/20 **Research Assistant to Prof. Hadi Seyedarabi,**
Digital Image Processing and Computer Vision Laboratory,
University of Tabriz.

Selected Research Topics:

- Video Compression and Communication Under Energy Constraints.
- Low Complexity Scheme for Multi-Focus Image Fusion for Visual Sensor Networks.
- Facial Expression Recognition Using Deep Learning.

- Object Tracking in Games Using Convolutional Neural Networks.
- Image-to-Image Recognition Using Generative Adversarial Networks.

11/16-11/17 **Research Assistant to Prof. Ngai-Man Cheung,**
Singapore University of Technology and Design (SUTD).
Research Topics:

- Aircraft Fuselage Defect Detection using Deep Neural Networks.
- Fine-Grained Wound Tissue Analysis Using Deep Neural Network.
- Video Interpolation Using Deep Convolutional Neural Network for Cloud Gaming.

03/19-11/19 **AI Researcher, AI-Bridge Company, Stuttgart.**
Projects:

- Learn to Train: Deep Regional Pose Estimation for Training a Dancer
- Popularity Prediction and Increment in Social Media Using Deep Neural Networks

01/18-04/20 **ML Researcher, Tabriz University of Medical Sciences.**
Research Topics:

- Artifact Reduction in CBCT Dental Images.
- Platform Technology for Early and Rapid Detection of Dementia Using Deep Learning.
- Automatic Mandibular Canal Detection Using a Deep Convolutional Network

07/20-now **Postdoc Researcher Fellow**
Singapore University of Technology and Design (SUTD).
Research Topics:

- GPS Anomaly Detection with GAN using Generative Data Augmentation
- Meta-Learning for Few-shot learning
- Fairness in Generative Models [ongoing project]

- Meta-Learning for CNN Generated Image Detection [ongoing project]

Research Interests

- Machine Learning
- Computer Vision
- Meta-Learning
- Generative Models
- General Artificial Intelligence

Research Papers

[1]. **M. Abdollahzadeh**, F. Shamsafar, and H. Seyedarabi, "Improving the Privacy of a Blind DCT-Based Watermarking Technique Using Visual Cryptography," The 9th International Conference of Information Security & Cryptology (ISC), 2013.

[2]. S. R. Alvar, **M. Abdollahzadeh**, and H. Seyedarabi, "A novel fast search motion estimation algorithm in video coding," in Industrial Electronics (ISIE), 2014 IEEE 23rd International Symposium on, 2014, pp. 934-937.

[3]. A. J. Alvandi, H. Alizadeh Ghazijahani, and **M. Abdollahzadeh**, "License plate recognition using neural networks based on contour map", 14th International Conference on Traffic and Transportation Engineering, 2015. (Farsi)

[4]. **M. Abdollahzadeh**, T. Malekzadeh, and H. Seyedarabi, "Multi-focus Image Fusion for Visual Sensor Networks" presented at the 24th Iranian Conference on Electrical Engineering 2016.

[5]. **M. Abdollahzadeh**, H. Alizadeh Ghazijahani, and H. Seyedarabi, "Quality Aware HEVC Video Transmission Over Wireless Visual Sensor Networks," presented at the 24th Iranian Conference on Electrical Engineering 2016.

[6]. H. Alizadeh Ghazijahani, **M. Abdollahzadeh**, H. Seyedarabi, and J. Musevi Niya, "Adaptive CSK Modulation Guaranteeing HEVC Video Quality Over Visible Light Communication Network" International Symposium on Telecommunication (IST) 2016.

[7]. H. Alizadeh Ghazijahani, **M. Abdollahzadeh**, H. Seyedarabi, and J. Musevi Niya, " On Error and Bitrate Tradeoff in Visible Light Communication System to ensure HEVC

Video Quality" International Journal of Information & Communication Technology Research, vol. 8, 19-27.
[8] M. Johari, **M. Abdollahzadeh**, F. Esmaeili, and V. Sakhamanehs, "Metal Artifact Suppression in Dental CBCT Images Using Image Processing Techniques", Revised, Journal of Medical Signals and Sensors vol. 8 (1), 2018.
[9] T. Malekzadeh, **M. Abdollahzadeh**, H. Nejati, and N.-M. Cheung, "Aircraft Fuselage Defect Detection Using Deep Neural Networks", GlobalSIP 2017. The fifth IEEE Global Conference on Signal and Information Processing.
[10] H. Nejati, M.A. Ghazijahani, **M. Abdollahzadeh**, T. Malekzadeh, N.-M. Cheung, K. H. Lee, and L. L. Low "Fine-grained Wound Tissue Analysis Using Deep Neural Network", ICASSP 2018. IEEE International Conference on Acoustics, Speech, and Signal Processing.
[11] **M. Abdollahzadeh**, H. Seyedarabi, J. Musevi Niya, and N.-M. Cheung, "Optimal HEVC Encoder Configuration for Energy Constraint Wireless Environments" IEEE Access, vol. 6, pp. 72479-72493, 2018.
[12]. H. Nasrollahi, K. Farajzadeh, V. Hosseini, E. Zarezadeh, **M. Abdollahzadeh** "Deep artifact-free residual network for single-image super-resolution", Signal, Image and Video Processing 14, 407–415 (2020).

Awards and Honors

- Ranked 816th among 500000 examinees (top 1 percent) in the Iranian nationwide entrance exam of universities for undergraduate studies (2007)
- Ranked 2nd among top graduate students (MSc, 2013)
- Ranked 72th among 6000 examinees in the Iranian nationwide university exam for PhD (2013)
- Ministry of Science, Research and Technology Scholarship to pursue PhD (2013)
- Accepted as the Member of the Exceptional Talented Student Organization (2016)
- Best Paper Award, 8th International Symposium on Telecommunications, IST (2018)
- Ranked 2nd among top graduate students (PhD, 2018)

Book

Milad Abdollahzadeh, Mohammad Asadpour, "Digital Image Encryption: Concepts and Algorithms" Atharaan Publication, 2018. (Farsi)

Patents

1. Arash Joudi Alvandi, Hamed Alizadeh Ghazijahani, **Milad Abdollahzadeh** "Implementation of License Plate Recognition Based on Contour Map", Iranian Patent & Trademark office, No. 87941. (Farsi)
2. Touba Malekzadeh, **Milad Abdollahzadeh**, Hossein Nejati, Ngai-Man Cheung "Aircraft Fuselage Defect Detection Using Deep Convolutional Neural Networks" US Patents. (In Progress)

Teaching Experience

2014-2019 University of Tabriz
Course: "Introduction to Electrical Engineering",

2014-2020 Tabriz Vocational University
Courses: "Signals and Systems"
"Theory of Electromagnetics"
"Programming with MATLAB"
"Deep Learning for AI and Computer Vision"

2015-2016 IEEE Iran Section, Tabriz Student Branch
Course: "Digital Image Processing"

2015-2016 University of Bonab
Courses: "Signals and Systems"
"Electrical Circuits Analysis"
"Electrical Circuits Lab"

2012-2014 University of Tabriz

Teaching assistant for:
“Signals and Systems”
“C Programming” Courses

Services

Reviewer for International Conferences

- International Conference on Learning Representation (ICLR)
- Neural Information Processing Systems (NeurIPS)
- IEEE International Conference on Image Processing (ICIP)
- IEEE International Conference on Multimedia and Expo (ICME)
- Iranian Conference on Electrical Engineering (ICEE)

Reviewer for International Journals

- Journal of Visual Communication and Image Representation.
- IET Image Processing.
- IET Signal Processing.
- IET Electronic Letters.
- Signal Processing: Image Communication.
- IEEE Access.

Administrative and Management Background

2013-2015 Vice-Chairman of IEEE Student Section
University of Tabriz

Professional Membership

Institute of Electrical and Electronic Engineering (IEEE)

Software Skills

Programming Languages

- Python (Excellent)
- C, C++ (Excellent)
- MATLAB (Excellent)

Deep Learning Frameworks

- Tensorflow (Excellent)
- PyTorch (Excellent)
- Caffe (Fair)
- MatConvNet (Fair)

Libraries

- NumPy (Excellent)
- Pandas (Excellent)
- Scikit-Learn (Good)
- OpenCV (Good)

References

Prof. Nga-Man Cheung

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Prof. Hadi Seyedarabi

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