

Sharif Amit Kamran

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EDUCATION

PhD. in Computer Science and Engineering

University of Nevada, Reno

CGPA: 3.5 / 4.0

Aug 2019 – Present

Ms. in Computer Science and Engineering

University of Nevada, Reno

CGPA: 3.5 / 4.0

Aug 2019 – Dec 2020

Bsc. in Computer Science and Engineering

BRAC University, Bangladesh

CGPA: 3.45 / 4.0

Jan 2013 – Apr 2017

PUBLICATIONS

BOOK CHAPTER

- [1] A Comprehensive Set of Novel Residual Blocks for Deep Learning Architectures for Diagnosis of Retinal Diseases from Optical Coherence Tomography Images, 2020, *Book Chapter, in Deep Learning, Volume 2., p.25-48, Springer.*

JOURNALS

- [1] Denoising Calcium Signals (Spatial-temporal Maps) using Mathematical Noise Modeling, 2020, in *Heliyon Under Review*
- [2] A Novel Deep Learning Conditional Generative Adversarial Network for Producing Angiography Images from Retinal Fundus Photographs, 2020, in *Scientific Reports.*, 10, 21580.
- [3] A High Throughput Machine-Learning Driven Analysis of Ca²⁺ Spatio-temporal Maps, 2020, in *Cell Calcium*, 91, p.102260.

CONFERENCES

- [1] RV-GAN: Retinal Vessel Segmentation from Fundus Images using Multi-scale Generative Adversarial Networks. **Pre-print**
- [2] Attention2AngioGAN: Synthesizing Fluorescein Angiography from Retinal Fundus Images using Generative Adversarial Networks, in *25th IEEE International Conference on Pattern Recognition 2020 (ICPR)*.
- [3] Fundus2Angio: A Novel Conditional GAN Architecture for Generating Fluorescein Angiography Images from Retinal Fundus Photography, in *15th International Symposium on Visual Computing 2020 (ISVC)*.
- [4] Improving Robustness using Joint Attention Network For Detecting Retinal Degeneration From Optical Coherence Tomography Images in *27th IEEE International Conference on Image Processing 2020 (ICIP)*.
- [5] Optic-Net: A Novel Convolutional Neural Network for Diagnosis of Retinal Diseases from Optical Tomography Images, in *18th IEEE International Conference on Machine Learning and Applications 2019 (ICMLA)*.
- [6] Total Recall: Understanding Traffic Signs using Deep Hierarchical Convolutional Neural Networks, in *21st IEEE International Conference on Computer and Information Technology 2018 (ICCIT)*.
- [7] Efficient Yet Deep Convolutional Neural Networks for Semantic Segmentation, in *IEEE International Symposium on Advanced Intelligent Informatics 2018 (SAIN)*.

WORK EXPERIENCE

Graduate Research Assistant, University of Nevada, Reno

Department of Computer Science and UNR school of Medicine

Aug 2019 – Present

Co-Founder, Bengali.AI

Dhaka, Bangladesh

Apr 2018 – Present

Mentor, Research & Engineering Apprenticeship Program (REAP)

US Army Educational Outreach Program

Jun 2020 – Aug 2020

Researcher, Center for Cognitive Skill Enhancement

Independent University Bangladesh (IUB), Dhaka, Bangladesh.

May 2017 – Jun 2019

SKILLS

- **Programming Languages:** C++, Python, Java, Bash (Shell Scripting), Matlab, HTML-CSS, Git, PHP
 - **Libraries:** OpenCV, Scikit-learn, Numpy, Caffe, Keras, Tensorflow, PyTorch, CoreML, ImageJ.
 - **Systems:** Linux OS, Google Cloud Platform (Compute Engine & App Engine)
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PROJECTS

Semi-supervised multi-modal learning

- Working on a semi-supervised GAN for detecting calcium transient events using temporal and visual information from videos.

Conditional Generative Adversarial Networks

- Implemented an attention-based generative adversarial networks for synthesizing Fluorescence Angiography from Retinal Fundus Photography.

Automated Denoising and Segmentation using Deep Learning

- Created a pipeline for Ca²⁺ spatio-temporal map generation, denoising and segmentation using deep learning.

Traffic Sign Recognition

- Achieved state-of-the-art results for road traffic sign recognition using deep residual neural network network for German and Belgian Traffic sign data-set.

Dilated Fully Convolutional Neural Networks (D-FCN)

- Implemented a FCN using dilated convolution and multi-scale skip connections for semantic segmentation and participated in University of Oxford's Pascal-VOC 2012 challenge.
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ACADEMIC SERVICES

Reviewer

2019 – Present

- WACV-2021, BMVC-2020, ICRA-2019, Sensors, IJAIT

Graduate Teaching Assistant

Jan 2020 – May 2020

- CS491/CS691 Deep Learning
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AWARDS & GRANTS

Grant, National Aeronautics and Space Administration (NASA)

Oct 2020 – Sep 2021

- **Role:** Graduate Research Assistant
- **Program:** Human Exploration Research Program
- **Title:** A Non-intrusive Ocular Monitoring Framework to Model Ocular Structure and Functional Changes due to Long-term Space flight
- **Primary Investigator:** Dr. Alireza Tavakkoli

Outstanding Graduating Graduate Student,

Dec 2020

- GSA Fall Awards 2020, University of Nevada, Reno

Graduate Dean's Merit Scholarship,

Aug 2019 – May 2020

- Graduate School, University of Nevada, Reno

Best Paper Award,

Aug 2018

- 2018 International Symposium on Advanced Intelligent Informatics (SAIN)
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SELECTED COURSEWORKS

Algorithms, Linear Algebra, Statistics and Probability, Machine Learning, Deep Learning, Computer Vision, Image Processing, Database Systems

REFERENCES

■ Dr. Alireza Tavakkoli

Associate Professor, Department of Computer Science and Engineering
University of Nevada, Reno, NV, 89557
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■ Dr. Sal Baker

Associate Professor, Department of Physiology and Cell Biology
University of Nevada, Reno, NV, 89557
Email: sabubaker@med.unr.edu