

Sharif Amit Kamran

skamran@nevada.unr.edu • +(1)929-418-7223 • sharifamit.com • Github:SharifAmit • linkedin.com/in/sharif-a-b15004105

EDUCATION

PhD. in Computer Science and Engineering

University of Nevada, Reno

CGPA: 3.7 / 4.0

Aug 2019 – Present

Ms. in Computer Science and Engineering

University of Nevada, Reno

CGPA: 3.63 / 4.0

Aug 2019 – Dec 2020

Bsc. in Computer Science and Engineering

BRAC University, Bangladesh

CGPA: 3.45 / 4.0

Jan 2013 – Apr 2017

WORK EXPERIENCE

Graduate Research Assistant, University of Nevada, Reno, USA

Aug 2019 – Present

- Working on NASA and DOD funded projects for identifying space-associated retinal degenerative diseases in astronauts and mapping enhanced visual perception using Semi-supervised Generative Networks.

Tools: Tensorflow, Pandas, NumPy, Keras, Weights & Biases, OpenCV.

Codes: [Vision-Transformer GAN](#), [RV-GAN](#), [Robust-Attention-Network](#), [OpticNet-71](#)

- Working on NIDDK (NIH) funded project on creating softwares and tools for automated extraction and quantification of calcium transient signals from calcium imaging videos.

Tools: Tensorflow, Streamlit, NumPy, Keras, OpenCV, LabelMe, ImageJ.

Codes: [4SM](#), [STMapAuto](#)

Intern, Personalized Healthcare Imaging, Genentech Inc., USA

May 2021 – Dec 2021

- Built a image-to-image translation conditional GAN for synthesizing vendor-specific Optical Coherence Tomography (OCT) Images acquired from Zeiss and Spectralis.

Tools: SimpleITK, Tensorflow, Slurm, SciPy, Pandas, OpenCV, Docker.

- Designed and evaluated supervised ML and CNN architectures for identifying between placebo and treatment arm for Ranibizumab (Lucentis) and Faricimab. The drugs are for treating Wet Age-related Macular Degeneration (AMD) and Diabetic Macular Edema (DME).

Tools: Tensorflow, Keras, Scikit-learn, NumPy, Pillow, Tensorboard, Docker.

- Built deep CNN-based regression network for estimating the growth rate of Geographical Atrophy (GA).

Tools: Tensorflow, Slurm, Scikit-learn, NumPy, Pandas, OpenCV, Tensorboard.

Researcher, Center for Cognitive Skill Enhancement, Dhaka, Bangladesh

May 2017 – Jun 2019

- Worked on semantic segmentation of natural scenes, skin-melanoma detection and traffic sign recognition.

Tools: Caffe, Keras, GCP, CoreML, NumPy, OpenCV, LabelMe.

Codes: [Dilated-FCN](#), [Total-Recall](#)

SKILLS

- Programming Languages:** C++, Python, Java, Bash (Shell Scripting), Matlab, HTML-CSS, Git, PHP

- Packages:** OpenCV, Scikit-learn, SimpleITK, NumPy, Pandas, Pillow, SciPy, Caffe, Keras, Tensorflow, CoreML, ImageJ, Streamlit, LabelMe, VS Code, Tensorboard, Weights & Biases, GCP, Slurm, Docker.

SELECTED PUBLICATIONS

JOURNALS

[J1] A Novel Deep Learning Conditional Generative Adversarial Network for Producing Angiography Images from Retinal Fundus Photographs, 2021, in *Scientific Reports.*, 10, 21580.

[J2] A High Throughput Machine-Learning Driven Analysis of Ca²⁺ Spatio-temporal Maps, 2020, in *Cell Calcium*, 91, p.102260.

CONFERENCE PROCEEDINGS

[C1] VTGAN: Semi-supervised Retinal Image Synthesis and Disease Prediction using Vision Transformers, in *Proceedings of the IEEE/CVF International Conference on Computer Vision Workshops 2021 (ICCVW)*.

[C2] RV-GAN: Retinal Vessel Segmentation from Fundus Images using Multi-scale Generative Adversarial Networks, in *24th International Conference on Medical Image Computing and Computer Assisted Intervention 2021 (MICCAI)*.

[C3] 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)*.

Detailed list of publications : [Google Scholar](#)