Suhail Najeeb web: suhailnajeeb.github.io
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Summary

Ph.D. student at the Department of Electrical and Electronic Engineering, The University of Melbourne. Passionate about research and development of novel techniques and their real-life application in Machine Learning, Deep Learning, and Computer Vision.

Education

Ongoing	Ph.D. (Engineering & IT)	Department of Electrical and Electronic Engineering, The University of Melbourne
2022	M.Sc. in Electrical & Electronic Engineering	Bangladesh University of Engineering and Technology, Dhaka, Bangladesh. (Graduation: July 2022)
2018	B.Sc. in Electrical & Electronic Engineering	Bangladesh University of Engineering and Technology, Dhaka, Bangladesh (Graduation: October 2018)

Experience

Graduate Researcher
Dept. of Electrical and Electronic Engineering, The University of Melbourne, Victoria, Australia
(August 2022 – Present)

Carry out research on different projects involving computer vision applications such as:
- Detection of damages in public roads from vehicle mounted cameras using deep learning
- Object detection from drone footage

Lecturer (full-time)
Dept. of Electronics & Communications Engineering, East West University, Dhaka, Bangladesh
(January 2019 – September 2021)

Courses Instructed
- Digital Speech & Image Processing
- Applied Numerical Methods
- VLSI Circuit Design
- Renewable Energy Technology
- Microprocessor & Interfacing
- Computer communications & Networks
- Object Oriented Programming
- Computer Fundamentals & Programming

Instructor,
Course on Python & Data Science, Satyen Bose Science Club, BUET
(September 2017 – January 2018)

Conducted two 6-week long workshops covering Basic Python, Machine Learning, Image Processing & Deep Learning

Awards & Mentions

Champions, IEEE Video & Image Processing Cup 2018, Athens, Greece
Team Markovians

Lung Cancer Radiomics – Tumor Region Segmentation from 3D CT scans of patients. Based on the NSCLC-Radiomics Dataset.

Runner-up, IEEE Video & Image Processing Cup 2017, Beijing, China
Team Markovians

Designed a Deep Learning based Traffic Sign Recognition Algorithm for Autonomous Vehicles under Challenging Conditions. Based on the CURE-TSD Dataset.

Technical Skills

Programming Expertise	Python	
Deep Learning Frameworks	PyTorch, TensorFlow	
Deep Learning Experience	Architectures	Convolutional Neural Networks, Vision Transformers, Detection Transformers, Autoencoders, etc.
	Applications	Detection, Classification, Segmentation etc.
Data Manipulation & Visualization	NumPy, pandas, h5py, matplotlib	
Image Processing Libraries	OpenCV, MATLAB, Pillow, scikit-image	
Biomedical Image Libraries	Pydicom, NiBabel, SimpleITK	

Programming Skills

Python	Java
C/C++	MATLAB

Language

Fluent in both Written and Spoken English (Native)

Soft Skills

- Problem Solving
- Active Learning
- Critical Thinking
- Presentation & Public Speaking

Recent Research Projects

2022	Object detection from drone footage (ongoing)
2022	Detection of damages in public roads from vehicle mounted road images using vision transformers.
2021 -2022	Multi-scale spatial feature fusion in 3D convolutional architectures for lung tumor segmentation from 3D CT images. (Master's Research Project)
2021	Traffic Sign Detection using Efficient Feature Pyramid Networks.
2020	Removal of Artifacts from Vehicle Mounted Images using Convolutional Autoencoders.
2019	Cancer Classification from Single-Cell RNA Sequencing Data using Dilated Convolutional Neural Networks
2018	Lung Tumor Detection and Segmentation from CT scans using Dilated Convolutional Neural Networks (VIP Cup 2018)
2018	Classification of Retinal Diseases from OCT scans using Convolutional Neural Networks
2017	Traffic Sign Detection under Challenging Conditions (VIP Cup 2017)

Publications

2022 S. Najeeb and M. I. H. Bhuiyan, (2022). "**Spatial feature fusion in 3D convolutional autoencoders for lung tumor segmentation from 3D CT images,"** *Biomedical Signal Processing and Control, 78*, 103996.

2019 S. Hossain, S. Najeeb, A. Shahriyar, Z. R. Abdullah and M. Ariful Haque, "**A Pipeline for Lung Tumor Detection and Segmentation from CT Scans Using Dilated Convolutional Neural Networks,"** *ICASSP 2019 - 2019 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Brighton, United Kingdom, 12-17 May 2019, pp. 1348-1352.

2018 S. Najeeb, N. Sharmile, M. S. Khan, I. Sahin, M. T. Islam and M. I. Hassan Bhuiyan, "**Classification of Retinal Diseases from OCT scans using Convolutional Neural Networks, "** *2018 10th International Conference on Electrical and Computer Engineering (ICECE)*, Dhaka, Bangladesh, 20-22 Dec. 2018, pp. 465-468.

Master's Research Project

2020-2022 **Multi-scale spatial feature fusion in 3D convolutional architectures for lung tumor segmentation from 3D CT images.**

Seminars & Talks

October 2019	Applications of AI in Engineering: The Data Driven Future East West University, Dhaka, Bangladesh
August 2019	Road to IEEE SP Cup & VIP Cup Ahsanuallah University of Science and Technology, Dhaka, Bangladesh

Conferences

2019	IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP 2019), Brighton, UK
2018	IEEE International Conference on Electrical and Computer Engineering (ICECE 2018), Dhaka, Bangladesh
2017	IEEE International Conference on Image Processing (ICIP 2017), Beijing, China

Professional Affiliations

Since 2017	Member, IEEE
Since 2017	Member, IEEE Signal Processing Society

References

1. Prof. Marimuthu Palaniswami
   Professor, Department of Electrical and Electronic Engineering,
   The University of Melbourne
   Mail: palani@unimelb.edu.au
2. Dr. Aravinda S. Rao
   Research Fellow, Department of Electrical and Electronic Engineering,
   The University of Melbourne
   mail: aravinda.rao@unimelb.edu.au