Shafkat Farabi

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Education

Jan 2017 – Mar 2020	**Islamic University of Technology**
	BSc in Computer Science and Engineering
	• CGPA: **3.92**/4.00
	• 5th in a class of 86
2014 – 2016	**Adamjee Cantonment College**
	Higher Secondary Certificate
	• GPA: **5.00**/5.00

Work Experience

July 2021 – Present	**Lecturer - Islamic University of Technology**
	Department of Computer Science and Engineering
	• *Courses Conducted:*
	– Differential Calculus and Geometry
	– Digital Logic Design
	– Numerical Analysis lab
	– Structured Programming lab
	– Algorithm Engineering lab
	– Compiler Design lab
	• Affiliated with the *Computer Vision* research lab
Nov – Dec 2019	**Intern - Robi Axiata Limited**
	Technology Department
	• Observed how the nationwide telecommunication network is maintained
	• Worked as a part of the RAN team

Research

B.Sc. Thesis	**Assessment of Human Actions from Videos Using Deep ResNets and WeightDecider**
	Final year thesis for acquiring BSc degree. The work falls in the domain of *Computer Vision* and is closely related to *Action Recognition*. The goal of this work is to asses and score human actions performed from a video of the said action.
	• Achieved better performance than SOTA on MTL-AQA dataset
	• Designed and coded experimenrts using PyTorch toolkit [Code]
	• Manuscript for publication based on this work
Field Of Interest	Computer Vision, Deep Learning, Human Action Recognition

Skills

- Programming Languages - C++, C, Python, Java, JavaScript
- Proficient in using *PyTorch, openCV* and *NumPy* libraries in Python
- Well versed in Git

Projects

Automatic Traffic Sign Recognition and Classification   - Python, Keras, OpenCV, Numpy
- Haar Cascade classifier used to detect and localize traffic sign in image
- Deep CNN used for classification after detection
- Trained and tested on *German Traffic Sign Recognition Benchmark* dataset (93% accuracy on test data)

Voice Controlled Remote Home Assistant   - Python, C, Arduino
- Voice command based wireless communication dependent system that can manage various systems (like turning lights off and on etc.) using Arduino and ESP 8286 module
- Python used for voice to text conversion in computer and to send text data over WiFi to ESP-8286
- C used to program Arduino board to receive data from ESP-8286 and manipulate circuitry accordingly

Automated Synchronized Traffic Control System using Minizinc   - Python, MiniZinc
- Modeled traffic light management in an urban setting as a constraint satisfaction problem
- Used MiniZinc, a constraint modeling language to find the optimum traffic light state (which lights should be turned on and which should be turned off for the least traffic congestion)
- Used python to run simulations to test the MiniZinc solver as well as to provide a frontend

Achievements

- Champion, 20th Intra IUT Programming Contest   -2019
- Champion, Matlab Coding Competition, Essonance   -2019
- Qualified for and participated in ACM ICPC Dhaka Regional Contests   -2017, 2018 & 2019
- Achieved OIC scholarship which provided funds for 3 years of undergraduate studies   -2017

Standardized Examination Scores

GRE:	Quantitative Analysis	Verbal Analysis	Analytical Writing
	168/170 (**91**st percentile)	**162**/170 (**90**th percentile)	**5.5**/6 (**98**th percentile)

TOEFL: Total Score: **118**/120 (Reading-30, Listening-30, Speaking-28, Writing-30)

References

Dr. Md. Hasanul Kabir
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