Joy Mazumder

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Research Interest

Computer Vision, Digital Image Processing, Machine Learning, Robotics

Education

- 2016: B.Sc in **Electrical & Electronic Engineering** (Former: Applied Physics, Electronics & Communication Engineering), University of Dhaka. (**CGPA: 3.67 in the scale of 4.00**)
- 2012: Higher Secondary Certificate from Chittagong Board, Bangladesh. (**GPA 5.00 in the scale of 5.00**)
- 2010: Secondary School Certificate from Chittagong Board, Bangladesh. (**GPA 5.00 in the scale of 5.00**)

Publications

- **Joy Mazumder**, Subrata Sarker, Z.M. Parvez Sazzad. **Video Sequence-Based Traffic Behavior Monitoring System** [Submitted on IEEE International Conference on Acoustic, Speech and Signal Processing, Calgary, Alberta, Canada – Currently Under Review]
- **Joy Mazumder,** Laila Naznin Nahar, Md. Moin Uddin Atique. **Finger gesture detection and application using Hue Saturation Value** [Submitted on International Journal of Computational Vision and Robotics – Currently Under Review]
- **Joy Mazumder**, Md. Moin Uddin Atique. **Hand Motion Detection Using HSV Values**, IEEESBDU Student Conference on Science & Engineering-2015

Undergraduate Project

Title: Video Sequence-Based Traffic Behavior Monitoring System
Supervisor: Z. M. Parvez Sazzad, Ph.D
Abstract: In this project, a mathematical model is designed to monitor traffic behaviors. Here two types of traffic behaviors: illegal parking and illegal U-turn are detected. For traffic detection, the background is estimated through running average method up to few frames and then the absolute difference between current and background frame is taken into account. Illegal parking is detected through consecutive analysis and U-turn is identified by the assumption of some regions on road. The model is tested on two video sequences and obtained satisfactory results.

Aptitude Test Scores

GRE Quantitative Reasoning 168/170
Verbal Reasoning 143/170

Language Proficiency

Bengali: Native
English: Fluent

Software

Simulation Software: Matlab, Proteus
Environment: Windows 10/8.1/8/7/XP. Linux (Ubuntu, Mint)
Programming: Python (OPENCV, Numpy, Pygame, Tkinter etc.), C, PHP, HTML, CSS, Arduino, Assemble (8086)

Relevant Courseworks

Undergraduate: Digital Signal Processing, Control Engineering, Electronic Circuit, Analog Electronics, Digital Electronics, Microprocessor and Assembly Language, Computer Peripheral & Interface, Power Electronics, Electricity and Magnetism, Applied Optics, Electronic Circuits, Electronic Devices, Microwave and Satellite Communication, Ordinary Differential Equations, Numerical Analysis, Mathematical Methods, Mathematical Statistics, Linear Algebra.

Awards & Honors

- Runner up, EEC Programming Contest-2016
- Champion, EEC Circuit Contest-2016
- 2nd runner up, EEE day Circuit Contest, University of Dhaka
- Scholarship for Academic Excellence of Jagonnath hall residents (SARATHI)-2015

Leadership & Volunteering Experience

- President, Electrical & Electronics Club (EEC), Dept. of EEE, DU, Nov. 2016-Present.
- Volunteer of ICIEV Conference, Dhaka-2014.
- Assistant Organizing Secretary of Electrical and Communication Club (now EEC), 2014-15.
- Executive Committee member EEE-DU annual picnic-2016, EEE study tour 2017 & 2015, Dept. of EEE Fresher's reception & farewell program 2014.

Professional Affiliations

- Trainer on Workshop on PCB design-2017.
- Trainer on Workshop on Basic Robotics & Automation, 2017
- Student Member IEEE.
- Teaching A level & O level Mathematics & Physics since 2013
- Designed IEEE Student Branch official website 2015
- Designed SCSE Conference official website 2015

Training & Workshops

- Workshop on IOT, organized by IEEE student branch, DU, 2017
- Workshop on Android programming, Dept of EEE, Dhaka, 2017
- Kaptai Hydro Electric Power Plant Training Program-2015
- Workshop on Arduino-2015
- Industrial tour on Bangladesh atomic Energy Commission-2014