Mohammad Raihanul Bashar

Contact Information

Email: mrbashar.iub@gmail.com
Homepage: mraihan19.github.io

Research Interests

Medical Machine Learning, Computational Neuroscience, Biomedical Imaging, Cognitive Science, Reinforcement Learning, Deep Learning, Bayesian Machine Learning and Information Theory, Lifelong Learning Computer Vision, Artificial Intelligence

Education

Jan 2013 - Aug 2017	Independent University, Bangladesh Bachelor of Computer Science Thesis : Effect of EMG Artifacts on Video Category Classification from EEG Supervisor : M. Ashraful Amin CGPA : 3.06/4.00 (3.49 (last 60 credit))

Publications

Book Chapters

- Aunnoy K Mutasim, Rayhan Sardar Tipu, **Mohammad Raihanul Bashar**, Md Kafiul Islam, M. Ashraful Amin, "Pattern Recognition in EEG Signals", Computational Intelligence for Pattern Recognition, November 2017, Springer-Verlag.

Conferences

- Aunnoy K Mutasim, **Mohammad Raihanul Bashar**, Rayhan Sardar Tipu, Md Kafiul Islam, M. Ashraful Amin, "Effect of Artefact Removal Techniques on EEG Signals for Video Category Classification", 24th International Conference on Pattern Recognition (ICPR).
- **Mohammad Raihanul Bashar**, Rayhan Sardar Tipu, Aunnoy K Mutasim, M. Ashraful Amin, "Effect of EMG Artifacts on Video Category Classification from EEG", Joint 2017 6th International Conference on Informatics, Electronics & Vision (ICIEV) & 1st International Conference on Imaging, Vision & Pattern Recognition (icIVPR).
- Aunnoy K Mutasim, Rayhan Sardar Tipu, **Mohammad Raihanul Bashar**, M. Ashraful Amin, "Video Category Classification Using Wireless EEG", The 10th International Conference on Brain Informatics (BI 2017).
- **Mohammad Raihanul Bashar**, Abul Al Arabi, Rayhan Sardar Tipu, Md Tanvir Alam Sifat, Md Zobair Ibnalam, M. Ashraful Amin. "2D Surface Mapping for Mine Detection via Wireless Networking". 2nd International Conference on Control and Robotics Engineering, (ICCRE 2017).

- Abul Al Arabi, Rayhan Sardar Tipu, **Mohammad Raihanul Bashar**, Binoy Barman, Shama Ali Monica, M. Ashraful Amin. "Implementation of Low Cost Stereo Humanoid Adaptive Vision for 3D positioning and Distance Measurement for Robotics Application with Self-calibration." 11th Asia Modelling Symposium, (AMS 2017).

Research Experience

Apr 16 - Sep 17

Independent University, Bangladesh
Undergraduate Research Assistant
Wireless EEG Signal Procession & Machine Learning
Supervisor : M. Ashraful Amin
Computer Vision & Cybernetics, BD

With the vision of building a BCI based video recommender system, we experimented with several state-of-the-art algorithms for each of the submodules (pre-processing, feature extraction, feature selection and classification) of the Signal Processing module of a BCI system in order to find out what combination of algorithms best predicts what type of video a person is watching.

July 18 - Jun 19

Independent University, Bangladesh
Research Assistant
Bangladeshi License Plate Recognition
Supervisor : M. Ashraful Amin
Computer Vision & Cybernetics, BD

The objective of an Automatic Number Plate Recognition (ANPR) system is to locate and recognize the number plate of vehicles automatically. Bangladeshi license plate consist of Bengali letter and number which is why there is a need for custom Bangladeshi license plate recognition. As there is no established or open source data set for Bengali digit and number, Our goal is to compile a data set and build a ANPR system for Bangladeshi license plate.

July 19 -

Independent University, Bangladesh
Research Assistant
National Medicine Image Database Creation & Recognizing Medicine from Medicine Image
Supervisor : M. Ashraful Amin
Computer Vision & Cybernetics, BD

• Collecting raw pill image data maintaining quality of images (proper lighting, angle, visual of the engraved or imprinted text on the surface). • To Create a standard dataset similar to NLM Dataset and generate metadata • Deploy the medicine recognition system on the produced dataset and improve the feature detection techniques. • The eventual goal is to create a mobile application which will be extremely useful for patients (especially visually impaired people) to identify their prescribed pills out of packaging.

Work Experience

Jan 18 - Apr 18	Independent University, Bangladesh Teaching Assistant Data Mining Faculty: Dr. Moinul Islam Zaber
Sep 18 - Dec 18	Independent University, Bangladesh Teaching Assistant Image Processing & Pattern Recognition Faculty: M. Ashraful Amin

Awards

Nov 2016	SECS Award, IUB
April 2016	1st runner-up Nasa Space Apps Challenge 2016

Skills

- Programming Languages : Python; MATLAB; C++; Java; C#
- Software : Tensorflow; PyTorch; Keras; Theano; Cuda-Convnet; OpenCV;
- Hardware Related : Arduino; Raspberry Pi;
- Languages : native/fluent in Bengali, English. Studying for French

Interests & Activities

Astrophysics, Philosophy, Psychology, Anthropology
Video Games, Photography, Cycling, Traveling, Hiking & Cooking.