ZABIR AL NAZI

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EDUCATION

B.Sc. in Electronics and Communication Engineering   Expected Graduation in February 2019
Khulna University of Engineering and Technology   Current CGPA: 3.45 / 4.00

Coursework: Data Structure and Algorithm, Database Management, Internet Programming, C Programming, Object Oriented Programming with C++, Digital Image Processing, Digital Signal Processing, Artificial Neural Network and Fuzzy Logic, Numerical Methods, Linear Algebra, Probability and Statistics, Multivariable Calculus, Computer Networks

Higher Secondary Certificate in Science   2012 - 2014
RAJUK Uttara Model College   GPA: 5.00 / 5.00

WORK EXPERIENCE

Ice9 Interactive – Research Intern   November 2017 - February 2018
· worked on imagery data mining with different API services

· other activities: using computer vision techniques to extract features from street view images, training ML models to classify and localize objects, designing dynamic maps etc.

MazeGeek BD – Intern, Research Assistant I   May 2018 - Present
· worked on VINNDO platform, designed web crawlers
· working on deploying a ML model which can extract car features from images, localize car parts and automatic VIN detection system

Diversense – Founder   February 2018 - Present
· working on an automation and data science start-up
· we are targeting mid-range business industries to automate their processes, give them insightful information from the available data they have

SKILLS

Fields	Algorithms and DS, Computer Vision, Image Processing, Machine Learning, Embedded Systems, Robotics, Biomedical
Languages	Python, C++, C, Matlab, GNU Octave, C#, Javascript, PHP, Java, R
Operating System	Windows, Ubuntu, Linux Mint, Raspbian
Frameworks / Tools	Keras, tensorflow, Flask, scikit-learn, OpenCV, Pandas, Bokeh, Jupyter Notebook, d3, PyTorch, Spyder, CodeBlocks, Unity, SQL

PUBLICATIONS

- Automatic Skin Lesion Segmentation and Melanoma Detection: Transfer Learning approach with U-Net and DCNN-SVM, **International Joint Conference on Computational Intelligence, Springer Nature**
- Bangla Handwritten Digit Recognition Approach with an Ensemble of Deep Residual Networks, **International Conference on Bangla Speech and Language Processing**

- Motor Imagery EEG Signal Classification Using Random Subspace Ensemble Method, **7th International Conference on Informatics, Electronics & Vision** [Accepted]
- Data Prediction in Distributed Sensor Networks using Adam-Bashforth-Moulton Method, **Journal of Sensor Technology**
- Motor Imagery EEG Classification using Random Subspace Ensemble Network with Variable Length Feature Sampling, **International Journal Bioautomation** [Submitted]
- Information Prediction in Sensor Networks Using Milne-Simpson's Scheme, **International Conference on Advances in Electrical Engineering (ICAEE)**

ACHIEVEMENTS

Innovation fund, ICT Division, Bangladesh Govt. (2018)

· Project BraiNect

ACM International Collegiate Programming Contest, Dhaka Regional (2015, 2016, 2017)

· https://icpc.baylor.edu/ICPCID/BIKBO2UHPKON

Ignition 2018: National Mechanical Festival

· **Champion**, Matlab Programming Contest

Hult Prize: Hult Prize on Campus

· **Finalist**, Project Riddhi

ONGOING RESEARCH PROJECTS

- Online learning on DCNN: Generating batches from augmented data in latent space from variational auto encoders for streaming data
- Micro-expression analysis for HCI inspired conversations
- Book suggestions generation from movie synopsis with ELMo
- Study of E4 signals from responses for known and unknown faces

PROJECTS

- ➢ **Autonomous Driving System with Matlab**

· I developed a toolbox to calibrate the car and get the images for training mode easily, used a simple distributed computing system with two laptops to speed up processing, ad-hoc image processing technique for lane detection and cascade classifiers for road sign detection
· https://github.com/zabir-nabil/autonomous-driving-system

- ➢ **Face detection system with CNN and Eigen-Face on Raspberry-PI**

· https://github.com/zabir-nabil/rasp-face

- ➢ **One-shot face recognition with Siamese Network**

· https://gitlab.com/mazegeek-khulna/research-docs

> **Breast cancer classification, Skin lesion classification scheme**

· https://github.com/zabir-nabil/lesion-segmentation-melanoma-tl

> **Data visualization, analysis**

· https://github.com/zabir-nabil/data-viz

> **Other Projects**

· Face Dataset Generator from Videos   · eduShare   ·G-Drive Public Link Generator   ·syn-crawler   ·RSE-Net

ONGOING PROJECTS

- DRIMS: IoT based driving pattern and vehicle monitoring system
- Audio book generator for blind people from natural books

DATA SCIENCE COMPETITIONS

Kaggle – Numta, Bengali Handwritten Digit Recognition Challenge

· Top 15%   · https://www.kaggle.com/furcifer

Kaggle – Quora Insincere Questions Classification: Detect toxic content to improve online conversations

· Top 67%   · https://www.kaggle.com/furcifer

VOLUNTEER EXPERIENCE

· Secretary, **IEEE KUET Student Branch**

· Algorithmic Problem Setter, **CodeAssign** (start-up focused on OJ, based on Croatia)

· Assistant General Secretary, **SGIPC** (club of competitive programming community at KUET)

· Software Team Lead, **KUET Rover Makers** (International Rover Challenge)

· Intro Python Instructor, **Fab Lab KUET**

· Technical organizer, **TechNival** (biggest tech carnival launched by MEC, KUET)

· Founder & Fellow Member, **IRAS** (Innovation and Research Association for Students, KUET)

Others

· **Regional BACS Programming Camp 2017**, Khulna Region (got invitation, participated)

· **National BACS Programming Camp 2017** (got invitation, participated)