

ANANNA BISWAS

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RESEARCH INTEREST

- Computational Neuroscience, Signal Processing
- Brain-Computer Interface, Neural Engineering
- Machine Learning, Deep Learning
- Computer Vision, Biomedical Image Processing

EDUCATION

B.Sc. in Electronics and Communication Engineering

April 2015 - February 2019

Khulna University of Engineering and Technology (KUET)

Khulna, Bangladesh

- CGPA: 3.31/4.00

PROFESSIONAL EXPERIENCE

Research Engineer

September 2021 – March 2022

Advanced Intelligent Multidisciplinary Systems (AIMS) Lab, UIU

Dhaka, Bangladesh

- Worked on a Neuro marketing project to predict consumer response (preference, purchase intention, & attention) to the marketing stimuli through machine learning models using EEG signals and eye-tracker.

Research Assistant

August 2019 – August 2021

Brainekt-Computer Software Company

Dhaka, Bangladesh

- Writing research articles.
- Conducted research on Projects:
 - Wheelchair patient monitoring problem using EEG signals.
 - Anomaly detection of ECG signal by dot Residual LSTM Network.
- Working on the collaboration among independent researchers.

Operator

February 2018 – February 2019

Fabrication (FAB) Lab, KUET

Khulna, Bangladesh

- Organized workshop on “Laser Cutting & Engraving”.
- Organized workshop on “cutting Edge Fabrication Facilities”.
- <https://www2.kuet.ac.bd/fablab/operators-2018/>

PUBLICATIONS

- **Ananna Biswas**, Fazla Rabbi Mashrur, Khandoker Mahmudur Rahman, Mohammad Tohidul Islam Miya, Farhana Sarker, Khondaker A. Mamun, **An Overview of Neuromarketing Research in Developing Countries: Prospects and Challenges**, 2nd International Conference on Computing Advancements (ICCA) (2022).
- **Ananna Biswas**, Zahir Al Nazi, Tasnim Azad Abir, **Invasive Ductal Carcinoma Detection by A Gated Recurrent Unit Network with Self Attention**, International Conference on Electrical Information and Communication Technology (EICT) (2019).
- Zahir Al Nazi, **Ananna Biswas**, Md. Abu Rayhan, Tasnim Azad Abir, **Classification of ECG Signals by dot Residual LSTM Network with data augmentation for anomaly detection**, International Conference on Computer and Information Technology (ICCIT) (2019).

SKILLS

- Languages: Python, MATLAB, HTML, CSS, C++, C
- Framework/ Tools: EEGLAB, Keras, TensorFlow, scikit-learn, OpenCV, Pandas
- Paper writing: LaTeX
- Data Analysis and Presentation: SQL, MS Excel, MS Word, MS Power Point
- IDEs: Jupyter Notebook, Spyder, Code Blocks.
- Operating Systems: Windows, Ubuntu, Linux

ONLINE COURSES AND TRAINING

- NMA Computational Neuroscience by neuromatch academy
 - Intro to Modeling
 - Machine learning
 - Dynamic Systems
 - Stochastic Process
- The BCI & Neurotechnology Spring School 2022 by g.tec medical engineering GmbH.
- Ada Lovelace DATATHON 2021 by HERWILL and BdOSN:
 - Descriptive Analysis
 - Feature Engineering
 - Machine learning Models
 - Validation and Evaluation
- Introduction to Python (**datacamp**)
- Intermediate Python (**datacamp**)
- Neural Networks and Deep Learning by deeplearning.ai (**Coursera**).
- Improving Deep Neural Networks: Hyper parameter Tuning, Regularization and Optimization by deeplearning.ai (**Coursera**).
- Fight Against COVID-19 Pandemic Using Machine Learning 2020 by IEEE CS BDC.
- Git for Developers Using GitHub by Coursera Project Network (**Coursera**).
- Speak English Professionally: In Person, online & On the Phone by Georgia Institute of Technology (**Coursera**).

UNDERGRADUATE COURSES

- Data Structure & Algorithms, Database System, Internet Programming, C Programming, Object Oriented Programming.
- Digital Image Processing, Digital Signal Processing.
- Numerical Analysis, Information Theory
- Computer Networks.

SCHOLARSHIP

- Shahjalal Islami Bank HSC Scholarship (Offered for poor & scholar Bangladeshi students)
- Higher Secondary School Certification (HSC) Scholarship (Offered by the Government of Bangladesh)
- Secondary School Certification (SSC) Scholarship (Offered by the Government of Bangladesh)

VOLUNTEER EXPERIENCE

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| ▪ Publication Secretary, MEC, KUET . | April 2018 – April 2019 |
| ▪ Treasurer, KUET Career Club (KCC, KUET). | March 2018 – March 2019 |
| ▪ IT executive, KUET Unit Face of ESAB (Engineering Students Association of Bangladesh) . | July 2017 – July 2019 |
| ▪ Organizing committee member of Technival'18, KUET | April 2018 |
| ▪ Organizing committee member of Career Carnival, KUET | July 2017 |
| ▪ Organizing committee member of Robi Career Carnival, KUET | August 2017 |

REFERENCES

- ❖ **Dr. A. B. M. Aowlad Hossain**, Professor(ECE), Khulna University of Engineering & Technology (KUET)
Email:aowlad0403@ece.kuet.ac.bd
- ❖ **Dr. Md. Faruque Hossain**, Professor(ECE), Khulna University of Engineering & Technology (KUET)
Email:fhossain97@yahoo.com