Faisal Farhan

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University of Girona, Spain.

EDUCATION

M.Sc in Medical Imaging and Applications   *Europe*

Erasmus Mundus Joint Master's Degree   *September 2023 - September 2025*
Université de Bourgogne,France; University of Cassino, Italy; University of Girona,Spain;

B.Sc. in Electrical and Electronic Engineering   *Dhaka, Bangladesh*

Ahsanullah University of Science & Technology   *April 2016 - January 2021*
GPA: 3.936/4.0; Rank: 1/196
Undergraduate Thesis: Study of Pattern Recognition System through the development of a Raspberry Pi based speaker recognizer.

RESEARCH INTERESTS

Signal Processing, Medical Imaging, Image Processing, Machine Learning & Applied Artificial Intelligence

WORK EXPERIENCES

Lecturer   *June 2021 - August 2023*
Department of Electrical and Electronic Engineering, Ahsanullah University of Science & Technology
- Prepared and delivered lectures, tutorials, workshops and seminars.
- Developed different curriculum and course materials.
- Conducted research and writing papers, proposals, journal articles.
- Attended and participated in meetings, conferences, and other events in and outside institution.
- Supervised undergraduate students.

Faculty Member   *May 2021 - July 2021*
School of Science, Engineering & Technology, East Delta University
- Prepared and delivered lectures, tutorials, workshops and seminars.
- Attended and participated in meetings, conferences, and other events in and outside institution.
- Supervised undergraduate students.

PUBLICATIONS

1. Thahmidul I. Nafi, Erfanul Haque, **Faisal Farhan**, Asif Rahman *"High Accuracy Swin Transformers for Image-based Wafer Map Defect Detection"*, International Journal of Engineering and Manufacturing. [Paper Link]

2. F. Farhan and T. I. Nafi, *"ANN based approach to predict criminal trends in Bangladesh"*, 2nd International Conference on Artificial Intelligence and Signal Processing (AISP), 2022. [Paper Link]

3. T. H. Rafi, R. M. Shubair, **F. Farhan**, M. Z. Hoque and F. M. Quayyum, *"Recent Advances in Computer-Aided Medical Diagnosis Using Machine Learning Algorithms with Optimization Techniques"*, in IEEE Access. [Paper Link]

4. T. H. Rafi, **F. Farhan** (2021), *"A Performance Evaluation of Machine Learning Models on Human Activity Identification (HAI)"*,12th International Conference on Soft Computing and Pattern Recognition, Springer. [Paper Link]

5. T. H. Rafi, **F. Farhan**, Z. Hoque, F. Quayyum. (2020). *"Electroencephalogram (EEG) brainwave signal-based emotion recognition using extreme gradient boosting algorithm"*, Annals of Engineering, 1(1), 0005. [Paper Link]

6. *Kabir, M. S. A.,* **Farhan, F**., *Siddiquee, A. A., Baroi, O. L., & Rahimi, J. (2023). "Effect of Input Channel Reduction on EEG Seizure Detection. Przeglad Elektrotechniczny", 2023(12).* [Paper Link]

7. *"Revival of the Lost Glory of Muslin through Identification of Phuti Karpas Plant with an Effective Approach by Using Convolution Neural Network", Smart Agricultural Technology.* [Under Review]

SELECTED ACADEMIC PROJECTS

- Gastrointestinal Polyp Segmentation and Classification (Advanced Image Analysis, Machine Learning and Deep Learning academic project)
- Financial Data Analysis: Predictive Analytics for Trading Actions (Statistical Learning and Data Mining academic project)
- Blood Bank Management System (Distributed Programming and Networking academic project)
- Smart Chest Xray Analysis and Report Generation system (Software Engineering academic project) [github]
- Raspberry Pi based Speaker recognition system (Undergraduate thesis project)

TECHNICAL SKILLS

- Programming Languages: C++, Python, Java, Matlab, Verilog, HTML.
- Libraries: Pandas, NumPy, Matplotlib, Tkinter.
- Data analysis and visualization: Scikit learn, tensorflow, keras, pytorch, matplotlib, excel.
- Tools: Google Colab, Git, Visual Studio, Codeblocks, MATLAB, Arduino.
- Simulators: Orcad Pspice, Quartus, Proteus, Cadence.
- Design Software: Adobe Photoshop, Adobe Illustrator, Figma
- OS: Windows, Linux, Raspbian.

ACADEMIC HONORS

- Erasmus Mundus Scholarship, European Union.
- Aquisis International Mobility Grant, Region Bourgogne Franche Comte (France).
- Dean's List of Honor in all four academic years.
- Khan Bahadur Ahsanullah award (highest CGPA among all department in the graduating class, to be conferred in Convocation'2025)
- Nominee for Prime minister gold medal award (Academic year 2021)

PRESENTATIONS

- Detection of diabetic retinopathy using a fusion of textural and ridgelet features of retinal images and sequential minimal optimization classifier, *University of Burgundy (France).*
- Review on Traditional and Deep Learning Methods for Diabetic Retinopathy detection and classification, *University of Burgundy (France).*   *2022*
- 2nd IEEE International Conference on Artificial Intelligence and Signal Processing (AISP).
- 12th International Conference on Soft Computing and Pattern Recognition (SOCPAR'21).   *2020*

LEADERSHIP EXPERIENCES

- **Treasurer,** AUST Career Development Club   *2022-2023*
- **Chittagong Division Representative**, Bangladesh Development Project   *2021*
- **Vice President**, Ahsanullah University of Science & Technology EEE Society   *2020*
- **Lead Volunteer**, Youth's Voice Bangladesh   *2013-2015*