

Faisal Farhan

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Phone: +880 1778726056 | Dhaka, Bangladesh.

RESEARCH INTERESTS

Biomedical Engineering, Signal Processing, Medical Imaging, Image Processing, Applications of AI for Healthcare

EDUCATION

Erasmus Mundus University Master's Degree in Medical Imaging and Applications

Europe

Universitat de Girona; Universite de Bourgogne-Dijon; Università degli Studi di Cassino; September 2023 - June 2025

GPA: 8.40/10.0;

Thesis: Design and Validation of Multimodal and Lightweight Handheld ST-rPPG Acquisition Systems for Physiological measurements. [\[pdf\]](#)

Supervisor: [Dr. Yannick Benezeth](#)

Laboratoire en Imagerie et Vision Artificielle (ImVIA), Dijon, France.

ECTS completed: 30/120;

B.Sc. in Electrical and Electronic Engineering

Dhaka, Bangladesh

Ahsanullah University of Science & Technology

April 2016 - January 2021

CGPA: 3.936/4.0; Rank: 1/199

Undergraduate Thesis: Study of Pattern Recognition System through the development of a Raspberry Pi based speaker recognizer. [\[pdf\]](#)

Supervisor: [Mr. Muhammad Jakaria Rahimi](#)

WORK EXPERIENCES

Lecturer (Grade-I)

December 3, 2025 - Present

Department of Electrical and Electronic Engineering, Ahsanullah University of Science & Technology, Bangladesh.

Graduate Research Intern

February 1, 2025 - June 30, 2025

Laboratoire en Imagerie et Vision Artificielle (ImVIA), Dijon, France

Lecturer (Grade-II)

June 30, 2021 – December 2, 2025

Department of Electrical and Electronic Engineering, Ahsanullah University of Science & Technology, Bangladesh.

(Study leave for Erasmus Mundus Master's degree: September 2023 – July 2025)

Teaching Assistant

June 2, 2021 – July 31, 2021

School of Science, Engineering & Technology, East Delta University, Bangladesh.

PUBLICATIONS

Selected Publications

- J1.** Faisal Farhan and Yannick Benezeth “*Enhanced Vascular Perfusion Mapping and Heart Rate Estimation via Spatio-Temporal rPPG with Optical and Motion Compensation Techniques*”, 2026 Biomed. Phys. Eng. Express 12 029501 [[DOI:10.1088/2057-1976/ae1e82](https://doi.org/10.1088/2057-1976/ae1e82)]
- J2.** Redwan Ahmed Rizvee, Omar Farrok, Mahamudul Hasan, Faisal Farhan, Md Hafanul Islam, Md Khalid Hasan, Abidur Rahman, Maheen Islam, Md Sawkat Ali, Taskeed Jabid, Mohammad Rifat Ahmmad Rashid, Mohammad Manzurul Islam “*Revival of Muslin by Phuti Karpas plant identification with convolution neural network*”, Array, Volume 27,2025, ISSN 2590-0056. [[DOI: 10.1016/j.array.2025.100428](https://doi.org/10.1016/j.array.2025.100428)] [[Q1](#)][[Impact Factor: 5.3](#)]
- J3.** Md-Shaikh-Abrar Kabir , Faisal Farhan , Adnan Siddiquee , Oli Baroi , Taniza Marium , Md-Jakaria Rahimi “*Effect of Input Channel Reduction on EEG Seizure Detection*”, Przegląd Elektrotechniczny, 2023(12). [[DOI: 10.15199/48.2023.12.35](https://doi.org/10.15199/48.2023.12.35)]
- J4.** 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. [[DOI: 10.5815/ijem.2022.05.02](https://doi.org/10.5815/ijem.2022.05.02)]
- J5.** 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, vol. 9, 2021. [[DOI: 10.1109/ACCESS.2021.3108892](https://doi.org/10.1109/ACCESS.2021.3108892)] [[Q1](#)][[Impact Factor: 4.2](#)]
- C1.** 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. [[DOI: 10.1109/AISP53593.2022.9760684](https://doi.org/10.1109/AISP53593.2022.9760684)]
- C2.** 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. [[DOI: 10.1007/978-3-030-73689-7_25](https://doi.org/10.1007/978-3-030-73689-7_25)]

Accepted

- C1.** Sourav Dey, Nushrat Jahan Mim, Farzana Faria, Faisal Farhan, Md Shaikh Abrar Kabir “*Benchmarking CNN and Vision Transformer Architectures for Four-Class Brain Tumor Classification on the PMRAM Bangladeshi MRI Dataset*” 2026 IEEE International Conference on Optics, Machine Learning and Emerging Technology. [[Accepted](#)]

Under Review

- J1.** Faisal Farhan, Muhammad Kabir Hamzah, Beyza Zayim, Aya Ahmed Faeek Elgebaly and Diptan Regmi “*A Dual-Pipeline Approach for Colorectal Polyp Detection and Segmentation with Machine and Deep Learning Models*” International Journal of Intelligent Systems, 2026. Manuscript ID: 7426684 [[Q1](#)][[Impact Factor: 4.8](#)]
- C1.** Sourav Dey, Dibakar Roy, Nushrat Jahan Mim, Faisal Farhan, Farhan Zawad “*Beyond Accuracy: A Leakage-Safe and Anatomy-Aware Evaluation of Gastrointestinal Endoscopy Classification*” 29th International Conference on Computer and Information Technology. Submission ID: 2814

Ongoing Research

- Hybrid Deep Learning Models for Arsenic skin disease detection in Southern Bangladesh

SELECTED ACADEMIC PROJECTS

- Design and Validation of Multimodal and Lightweight Handheld ST-rPPG Acquisition Systems for Physiological measurements. (Masters thesis project) [[pdf](#)]
- Gastrointestinal Polyp Segmentation and Classification (Advanced Image Analysis, Machine Learning and Deep Learning academic project) [[pdf](#)]
- Lung CT Volume Registration (Medical Image Registration academic project) [[pdf](#)]
- Brain MRI tissue segmentation (Medical Image Segmentation academic project) [[pdf](#)]
- Smart Chest Xray Analysis and Report Generation system (Software Engineering academic project) [[github](#)]
- Raspberry Pi based Speaker recognition system (Undergraduate thesis project) [[pdf](#)]

TECHNICAL SKILLS

- Programming Languages: C++, Python, Java, Matlab, Verilog.
- Data Analysis: PyTorch, TensorFlow, Keras, Scikit Learn.
- Data Visualization: Simple ITK, matplotlib, excel.
- Operating System: Windows, Linux
- Tools: Google Colab, Git, Visual Studio, Codeblocks, MATLAB, Arduino.

HONORS & ACHIEVEMENTS

- Khan Bahadur Ahsanullah award (highest CGPA among all department in the graduating class) [\[certificate\]](#)
- Erasmus Mundus Scholarship, European Union
- Dean's List of Honor in all four academic years during Undergraduate studies.
- **Member**, Erasmus Mundus Association (2023-2025)
- **Vice President**, Ahsanullah University of Science & Technology EEE Society (2020)

REFERENCES

Dr. Yannick Benezeth Professor Faculty of Computer Science (CNU 27) Université Bourgogne Europe Dijon, France Email: yannick.benezeth@u-bourgogne.fr	Mr. Muhammad Jakaria Rahimi Associate Professor Department of Electrical and Electronic Engineering Ahsanullah University of Science and Technology Dhaka, Bangladesh Email: mjrahimi.eee@aust.edu
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