Samarjeet Das

PhD Scholar, EEE Department, IIT Guwahati.

Mobile: +91-9439631914
Linkedin: www.linkedin.com/in/samarjeet-das-82b910137/ Email: samar176102005@iitg.ac.in
Github: github.com/SAMARJEET025 / samarjeet025@gmail.com

CAREER OBJECTIVE

To see myself in an esteemed organization where I can utilize my skills and abilities to help in its growth and thus fulfill my professional, societal and personal goal in future.

EDUCATION

- **IIT Guwahati** — Assam, India
  PhD -Biomedical Signal Processing; CPI: 8.75 — *2017 - Present*
- **IIEST Shibpur** — West Bengal, India
  M.Tech - Mechatronics; Percentage: 85 % — *2015 - 2017*
- **BPUT Rourkela** — Odisha, India
  B.Tech - Applied Electronics and Instrumentation; CGPA: 7.77 — *2007 - 2011*

PROFESSIONAL EXPERIENCE

- **IIT Guwahati** — Assam, India
  Teaching Assistant (TA), Dept. of EEE — *2017 - 2022*
- **IIEST Shibpur** — West Bengal, India
  Teaching Assistant (TA), School of Mechatronics — *2015 - 2017*
- **Einstein Academy of Technology and Management** — Odisha, India
  Lecturer, Dept. of ECE — *2011 - 2015*

RESEARCH INTEREST

- Biomedical signal processing especially analysis of cardiovascular signals such as heart sound using phonocardiogram (PCG), electrocardiogram (ECG) signal and seismocardiogram (SCG) signal.
- Time-frequency analysis of non-stationary signals
- Design and development of electronic circuits
- Machine learning and deep learning applications

KEY COURSES TAKEN

- Linear Algebra and Optimization
- Probability and Stochastic Processes
- Biomedical Signal Processing
- Pattern Recognition and Machine Learning
- Digital Signal Processing and Architecture

SKILLS SUMMARY

- **Coding**: Python, Matlab, SQL, C++
- **Documentation**: Latex, Microsoft Word
- **Machine Learning**: Theory and implementation of regression and classification models
- **Platforms**: Linux, Windows
- **Soft Skills**: Critical thinking, Technical writing, Public speaking, Event management

PROJECTS

- **Automated Detection and Classification of Heart Valve Diseases Using Phonocardiogram Signal**
  Mentor: Prof. S. Dandapat, EEE Department, IIT Guwahati.
  The Project is my PhD Thesis Work. The project aims to develop a robust framework consists of extracting novel features followed by machine learning models to detect different heart valve abnormalities. (2017 - Present)
- **Studies on Development of an Underwater Acoustic Pinger System for Source Localization**
  Mentor: Dr. SRK Vadali, Principal Scientist, CSIR-CMERI, Durgapur.
  The Project was my MTech Thesis Work. The objective of the project was to design and develop an underwater communication system for source detection and localization. (2015 - 2017)
- **Development of a GSM Based Home Automation and Security System**
  Mentor: Dr. Satyasen panda, Krupajal Engineering College, Bhubanseswar.
  This was my BTech Project. The objective of the project was to design a cost-effective solution that remotely controls home appliances and enables home security against intruders. (2010 - 2011)

PUBLICATIONS

- **Samarjeet Das**, D. Jyotishi, and S. Dandapat. "Heart Valve Diseases Detection Based on Feature-Fusion and Hierarchical LSTM Network". *IEEE Transactions on Instrumentation and Measurement*, 71 (2022): 1-11.
- **Samarjeet Das** and S. Dandapat. "Multi-component oscillatory model based classification of heart sounds". *Journal of Acoustical Society of India (JASI)*, (2020): 1-7.
- **Samarjeet Das** and S. Dandapat. "Synthesis and Classification of Heart Sounds Using Multi-component Oscillatory Model". *2020 National Conference on Communications (NCC), IEEE*, 2020, pp. 1-6.
- **Samarjeet Das** and S. Dandapat. "Automated Detection of Heart Murmurs From the PCG Signal Using Stationary Wavelet Transform." *2022 India Council International Conference (INDICON), IEEE*, 2022, pp. 1-6.
- **Samarjeet Das** and S. Dandapat. "Multiscale Kernel Residual Convolutional Neural Network to Detect Heart Valve Diseases." *2022 India Council International Conference (INDICON), IEEE*, 2022, pp. 1-5.
- S. Kumari, D. Jyotishi, **Samarjeet Das**, S. Dandapat. "Analysing the Effect of Segmentation on PCG Based Biometric System." *2022 India Council International Conference (INDICON), IEEE*, 2022, pp. 1-6.
- M. J. Singh, **Samarjeet Das**, L.N. Sharma, S. Dandapat. "Automated Detection of Aortic Stenosis Using Seismocardiogram signal". *National Conference on Communications (NCC), IEEE*, 2023. [Accepted]
- SRK Vadali, and **Samarjeet Das**. "Design Development and Experimental Validation of an Underwater Acoustic Pinger System." *2017 India Council International Conference (INDICON), IEEE*, 2017, pp. 1-6.

ACADEMIC ACHIEVEMENTS

- PhD scholorship holder of MHRD fellowship, Govt. of India, 2017 - 2022.
- MTech scholorship holder of MHRD fellowship, Govt. of India, 2015 - 2017.
- Graduate student member of IEEE community
- Attended workshop on "Tutorial Series on Deep Learning using Tensorflow (TSDLT)," IEEE Branch, IIT Guwahati, Oct. 2018.
- Reviewer of Elsevier Journals, 2020 - Present.
- Student Member, Organizing Committee, Workshop on AI in Healthcare Engineering, NECBH, IIT Guwahati, March 28-30, 2019.
- Event Manager (Organizing technical events, workshops and talks), RSF-EEE, IIT Guwahati, 2018 - 2019.

OTHER ACHIEVEMENTS

- Second Prize, National level hindi debate competition, New Delhi, 2002.
- Participated in district level kho-kho competition in school level.
- Silver medal, Badminton, EEE Dept., IIT Guwahati, 2019 (organized by RSF-EEE).
- Gold medal, Badminton, EEE Dept., IIT Guwahati, 2020 (organized by RSF-EEE).