

Dr. Saif Nalband
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RESEARCH INTEREST

Developing machine learning models for medical diagnosis using biomedical signal processing and imaging. Applying Machine learning and deep learning for different domain. Have developed new interest in Blockchain technology.

WORK EXPERIENCE

Thapar Institute of Engineering and Technology, Patiala October 2022 – present
Assistant Professor

- Instructor in-charge (IC) OOPS, C programming
- research in the field of machine learning, Blockchain

IIIT-Pune January 2022 – October 2022
Assistant Professor

- Instructor in-charge (IC) of Analysis and Design of Algorithm, Blockchain
- research in the field of machine learning, Blockchain

DY Patil International University - Pune July 2020 – December 2021
Assistant Professor

- Instructor in-charge (IC) of Design & Analysis of Algorithm, DBMS, OOPS using JAVA •
Research in the field of applied machine learning in the domain of biomedical engineering.
- Designing Subjects for specialised tracks and Syllabus of the course.
- Moodle/Collpol Administrator of University.
- Supervising UG, PG and PhD students.

INFANT Research Centre, UCC, Cork, Ireland January 2019– December 2019
Post Doctoral Researcher

I was working on DELPHI project at INFANT research centre to develop an automated seizure detection algorithm using machine learning algorithms. I observe, identify and interpret patterns in ECG signals and extract features. I utilize feature selection and supervised algorithms for classification. The work is carried out in MATLAB and classification is carried out in python using various libraries.

IIIT-Pune July 2018 – December 2018
Assistant Professor

- Instructor in-charge (IC) of Analysis and Design of Algorithm.

BITS Pilani, Goa Campus, India August 2013 - May 2018
Teaching Assistant (Instructor)

- Digital Design & Electronics and instrumentation & Microprocessor and Interfacing •
Contacted lab experiments and tutorials for undergraduate students in MOOC course.
- Assisted the instructor in charge for contacting lab examination.

HCL Infosystem, Mumbai August 2012 - May 2013
Retainership

- Quality Support of the Application.
- Timely Enhancement and development of software with quality.

- Conducting my own research independently
- Assist anting supervisor in conducting different experiments

EDUCATION

2018	PhD	EEE Department	Birla Institute of Technology & Science-Pilani India
2011	M.Tech	Biomedical Signal Processing	Visvesvaraya University India
2008	BE	Computer Engineering	University of Mumbai India

TECHNICAL STRENGTHS

Computer Languages: C, MATLAB, python, JAVA & Libraries **Software & Tools:** HTML, LaTeX, Excel, MySQL

PUBLICATION Journal

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1. R. Mittal, A. A. Prince, S. Nalband, Femi Robert, and Jac Fredo. "Modified-MaMeMi filter bank for efficient extraction of brainwaves from electroencephalograms." *Biomedical Signal Processing and Control* Vol : 69 Pages : 102927, **2021**.
 2. R. Mittal, A. A. Prince, **S. Nalband**, Femi Robert, and Jac Fredo. "Low-power hardware accelerator for detrending measured biopotential data." *IEEE Transactions on Instrumentation and Measurement* Vol: 70 Pages: 1-9 **2020**
 3. **S. Nalband**, CA.Valliappan, A.A. Prince, and A. Agrawal. "Time-frequency based feature extraction for the analysis of vibroarthrographic signals", *Computers and Electrical Engineering, Elsevier Publication*, Volume 69, pages 720-731, **2018**.
 4. **S. Nalband**, A.A. Prince, and A. Agrawal. "An entropy based feature extraction and classification of Vibroarthrographic signal using improved complete ensemble empirical mode decomposition with adaptive noise," *IET Science, Measurement & Technology*, vol. 12, no. 3, pp. 350-359, **2018**,
 5. **S. Nalband**, A. Sundar, A.A. Prince, and A. Agrawal. "Feature selection and classification methodology for the detection of knee-joint disorders," *Computer methods and programs in biomedicine*, 127, 94-104, **2016. Elsevier Publication**,
 6. **S. Nalband**, R.R.Sreekrishna R.R. and A.A.Prince "Analysis of Knee Joint Vibration Signals Using Ensemble Empirical Mode Decomposition," *Elsevier Procedia Computer Science*, vol.89, pp. 820-827, **2016**.

Conference

1. E. Mascarenhas, S. Nalband, A. R. J. Fredo and A. A. Prince, "Analysis and Classification of Vibroarthrographic Signals using Tuneable 'Q' Wavelet Transform," *2020 7th International Conference on Signal Processing and Integrated Networks (SPIN)*, **2020**, pp. 65-70, doi: 10.1109/SPIN48934.2020.9071335.
2. S. A. Raurale, S. Nalband, G. B. Boylan, G. Lightbody and J. M. O'Toole, "Suitability of an inter-burst detection method for grading hypoxic-ischemic encephalopathy in newborn EEG," *2019 41st Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*, **2019**, pp. 4125-4128, doi: 10.1109/EMBC.2019.8857000.
3. S. Nalband, C. A. Valliappan, R. G. A. A. Prince and A. Agrawal, "Feature extraction and classification of knee joint disorders using Hilbert Huang transform," *2017 14th International Conference on Electrical Engineering/Electronics, Computer, Telecommunications and Information Technology (ECTI-CON)*, **2017**, pp. 266-269, doi: 10.1109/ECTICon.2017.8096224..

4. R. R. Sreekrishna, S. Nalband and A. A. Prince, "Real time cascaded moving average filter for detrending of electroencephalogram signals," *2016 International Conference on Communication and Signal Processing (ICCSP)*, **2016**, pp. 0745-0750, doi: 10.1109/ICCSP.2016.7754244..

POSITION OF RESPONSIBILITY

Toastmasters International Margao

VP membership

August 2017 – August 2018

Margao, Goa, India

- Core responsibilities is to create a climate that attracts new members
- Helps the club to achieve its mission.
- Know member goals and enable them to be achieved.

Sports Secretary

Zephyr Inter college Sport Meet,

August 2007 – August 2008

LTCOE- Navi Mumbai, India

- Responsible for contacting the annual sports meet of the college. Organized first inter college football tournament in LTCOE.

WORKSHOP & TRAINING

- Workshop on "SciPy India 2017 conference" organized by IIT Bombay
- "Personality Optimal Enhancement Training Program" conducted by Flambeau at RV College of Engineering, Bangalore.
- Workshop on "Essential Instrumentation For Health Monitoring", organized by the Instrument Society of India at the Department of Instrumentation, Indian Institute of Science, Bangalore.
- Workshop on "Medical Imaging, organized by the Instrument Society of India at the Department of Instrumentation, Indian Institute of Science, Bangalore.
