SHIBU MEHER

Final Year Undergraduate

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Summary

Final Year Student with background in metallurgy and materials engineering. Have worked with biomedical signals. Have developed control and optimization application. Interested in Interdisciplinary Research and Development.

Experience, Internships and Projects

Project Assistant at IIT Bhubaneswar *[Jun 2020 – Sept 2020]*

- Worked on a consultancy project on "A Model-Based Decision Control and Support System for Accretion control to increase the production of Sponge Iron to the target annual capacity".
- Checked the presence of chaos in the obtained data from the plant
- Making a chaos-based control strategy for prediction and control of quality of sponge iron (Still in progress as B. Tech Project)

Summer Research Intern at Spark, IIT Roorkee *[May 2020-July 2020]*

- Worked on improving the efficiency of thermo-electric material (Zinc Oxide)
- Performed computational modeling of grain boundary segregation of impurities in Zinc Oxide

Summer Intern at TATA Long Product Limited, Joda *[13th May 2019-22nd June 2019]*

- Worked on on-line dynamic quality and process control of rotary kilns to increase productivity and kiln life.
- Made a nonlinear model to predict the quality of sponge iron and predict the required input to have the desired quality
- Implemented nonlinear denoising algorithms to reduce the noise from chaotic time series taken from heavy noise environment
- Developed an expert system to take decision based on plant conditions
- Developed an application containing the nonlinear model and the expert decision-making system.
- Checked the performance of the application in the plant

Epilepsy Detection from EEG Signal *[July 2019-Present]*

- Extracted two features from horizontal visibility graph of EEG signal and classify it using different classifying algorithm to study the accuracy

Automatic Sleep Apnea Detection from EEG Signal *[May 2020-Present]*

- Extracted chaotic features from three different EEG signal and one ECG signal to classify the sleep state and detect the occurrence of sleep apnea

Publications

Dynamic quality prediction and control in rotary sponge iron kilns

- April 10, 2020, IOP Conference Series: Materials Science and Engineering
- DOI: 10.1088/1757-899X/872/1/012077

Skills

- Programming Language – Python, MATLAB/Octave, HTML/CSS/JavaScript, C/C++, Fortran
- Software – Microsoft Office, COMSOL, LAMMPS, Metadise, DLPOLY
- Operating System – Windows, Linux
- Others – LaTeX

Certifications

- AI For Medical Diagnosis *[Aug 2020]*
- Convolutional Neural Network in TensorFlow *[Aug 2020]*
- Introduction to TensorFlow for AI, ML and DL *[Aug 2020]*
- Neural Network and Deep Learning *[Oct 2020]*

Education

Bachelor of Technology, IIT Bhubaneswar *[2017- Present]*

Metallurgy and Materials Engineering

- CGPA 8.93
- NCC Cadet (Attended one Combined Training Camp and Passed 'B' Certificate Exam)
- Awarded Spark Summer Research Internship 2020
- Second Prize at TATA Mind Rover Season 7 *[March 2019]*
- Second Position in BETic Innovation Challenge in Inter IIT Tech Meet *[December 2018]*

Intermediate, CHSE Odisha *[2015-2017]*

Physics, Chemistry, Mathematics and Biology

- Passed with 81.8%

10th Board, HSE Odisha *[2010-2015]*

- Passed with 90%
- Received State Level Rajiv Gandhi Prativa Puraskar 2013
- Junior Red Cross (Best Cadet in District Level Camp , Attended State Level Camp)
- National Cadet Corps (A Certificate, One Combined Annual Training Camp)