Ritwik Raha

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EDUCATION

Netaji Subhash Engineering College   Kolkata, West Bengal
Bachelor of Technology   *2016 – 2020*
- Electronics and Instrumentation
- Avg CGPA 7.89

Sri Aurobindo Institute of Education   Kolkata, West Bengal
Junior and High School   *Year of Passing 2016*
- ISC, 12th Standard – Percentage: 90.25
- ICSE, 10th Standard – Percentage: 86.8

RESEARCH

Causality Analysis of Emotional States from EEG Response   2019 – 2020
2020 IEEE 1st International Conference for Convergence in Engineering (ICCE)   *Kolkata, India*
- A novel study of the feature elements in corresponding emotional EEG states to investigate the appearance of repeating or residual elements which serve as the foundation of memory or causality in EEG signals.
- Investigation of the likelihood of predicting a certain emotional state given the subjects previous emotional state.

Medical Image Fusion using PCNN Optimized by Whale Optimization Algorithm   2018 – 2020
2020 IEEE 1st International Conference for Convergence in Engineering (ICCE)   *Kolkata, India*
- A novel algorithm for the fusion of medical images using a modified Pulse Coupled Neural Network(PCNN) optimized by the Whale Optimization Algorithm(WOA).
- Design of multi-criteria fitness function to extract features from an image without any prior training of the Pulse Coupled Neural Network.

PROJECTS

Cerebro-Visualiser | *Python,Streamlit, Heroku*   January 2021
- ∗ Built an interactive web application to visualise EEG Data
- ∗ That filters specific frequency bands and is able to plot the topographical map of the brain.

Indoor Navigation System | *Python, OpenCV, Tensorflow, ArcGIS*   March 2020
- ∗ A machine learning model for Indoor Navigation System built as a part of TCS EngiNx 2019.
- ∗ Uses camera feed and WiFi data to plot location on floor plan
- ∗ Work in progress - Data collection and cleaning.

GDG Kolkata Devfest 2019 App - Design | *Adobe XD, Figma*   July 2019
- ∗ Designed the UI/UX of the Devfest Kolkata Android App
- ∗ Using the materialdesign guidelines and replicating brand identity.
- ∗ Worked closely with a team of developers to materialise the final design.

Quantum Particle Swarm Optimization | *Python, MATLAB*   December 2019
- ∗ Implementation of Quantum-behaved particle swarm algorithm in MATLAB
- ∗ Improved the time complexity of the classic PSO Algorithm by 40%

TECHNICAL SKILLS

Languages: Python, Java, MATLAB, R
Frameworks: Tensorflow, Weights and Biases, FastdotAI
Developer Tools: Git, VS Code,PyCharm, RStudio
Libraries: pandas, NumPy, Matplotlib,PyTorch, TensorFlow, ScikitLearn

OTHER DETAILS

Lead Designer and Member- Google Developers Group Kolkata
Writer- A passionate storyteller with a flair for thriller.