

# Ritwik Raha

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## EXPERIENCE

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### Google Developer Expert in Machine Learning

Apr 2023 – Present

*Machine Learning Research Advocate*

- Regularly deliver talks and lead tutorials focusing on the integration of cutting-edge research into practical applications.

### PyImageSearch

March 2022 – Present

*Machine Learning Engineer*

- Author and review research-oriented blog posts, tutorials, and courses that demystify complex algorithms and models.
- Designed and implemented 5+ end-to-end courses, exploring advanced topics like Neural Radiance Fields (NeRFs), Transformers, JAX, and Causal Analysis.

### Tata Consultancy Services

Feb 2021 – Feb 2022

*Machine Learning Engineer*

- Developed a proprietary machine learning model focused on trailer space optimization, taking it from research to production.
- Achieved a 28 percent improvement in trailer fill rate optimization by leveraging advanced machine learning algorithms, with a mean error margin under 3 percent

## EDUCATION

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### 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

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### Causality Analysis of Emotional States from EEG Response

2019 – 2020

*2020 IEEE 1st International Conference for Convergence in Engineering (ICCE)*

- 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)*

- 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.

## TECHNICAL SKILLS

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**Languages:** Python, SQL, MATLAB, R, Julia

**Developer Tools:** Git, VS Code, PyCharm, RStudio

**Libraries:** TensorFlow, Keras, PyTorch, Matplotlib, ScikitLearn

## OTHER DETAILS

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**Mentor and Member-** TensorFlow User Group Kolkata- 2021- Present

**Lead Designer and Member-** Google Developers Group Kolkata - 2018-2019

**Writer-** A passionate storyteller with a flair for thriller.