

# SUPRATIM MANNA

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## SUMMARY

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I recently completed my MS (by Research) degree in Electrical Engineering from the Indian Institute of Technology Kharagpur and my thesis is currently under review. My domain of work is **machine learning in signal processing** with proficiency in **graph-based learning** and **mathematics**. I have good grasp and experience in developing various **machine learning** and **deep learning** algorithms which include several **Computer Vision** and **NLP** projects. I was also responsible for a project named **Development of Advanced Holter Monitor** which was sponsored by the Indian Ministry of Human Resource Development.

## EDUCATION

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**Master of Science (by Research)**  
**Indian Institute of Technology Kharagpur**  
Major in Machine Learning in Signal Processing  
Department of Electrical Engineering  
Current CGPA: 8.82

*September, 2020*

**Bachelor of Engineering**  
**Indian Institute of Engineering Science And Technology, Shibpur**  
Major in Electrical Engineering  
Department of Electrical Engineering  
CGPA: 8.04

*2015*

## PUBLICATIONS

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- Manna, Supratim, Jessy Rimaya Khonglah, Anirban Mukherjee, and Goutam Saha. "Robust Kernelized Graph-based Learning." Pattern Recognition (2020): 107628.  
<https://www.sciencedirect.com/science/article/abs/pii/S0031320320304313?via%3Dihub>
- Manna, Supratim, Jessy Rimaya Khonglah, Anirban Mukherjee, and Goutam Saha. "Low-Rank Kernelized Graph-based Clustering using Multiple Views." In 2020 National Conference on Communications (NCC), pp. 1-6. IEEE, 2020.  
<https://ieeexplore.ieee.org/document/9056006>
- Manna, Supratim, Jessy Rimaya Khonglah, Anirban Mukherjee, and Goutam Saha. "Kernelized Graph-based Multi-view Clustering on High Dimensional Data." In 2020 National Conference on Communications (NCC), pp. 1-6. IEEE, 2020.  
<https://ieeexplore.ieee.org/document/9056029/>

## COURSEWORK INFORMATION

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- Pattern Recognition and Image Understanding,
- Convex Optimization in Control and Signal Processing,
- Computational Methods and Algorithms in Signal Processing.
- Deep Learning and Visual Computing.
- Adaptive Systems and Signal Processing,
- Statistical Signal Processing,

## EXPERIENCE (4 YEARS)

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**Department of Electrical Engineering, IIT Kharagpur**

September, 2017 - July, 2020

*Role: Junior Project Officer*

Research Experience: Hardware design for advanced Holter monitor, printed circuit board (PCB) design, micro controller coding, android application development.

**Primetals Technologies India Private Limited, Kolkata**

March, 2016 - August, 2017

*Designation: Commissioning Engineer*

Experience: Commissioning of electrical machines in plant(steel plant) in different mills, Plant automation, setting up PLCs (Siemens PLC), writing PLC logic, designing HMI.

## THESIS DETAILS

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Title: **Graph-based Learning using Multiple Views**

Work details :

- Represent the data set as a graph and then learn the optimal graph similarity matrix that can divide the data set into some clusters and can also perform semi-supervised classification on the given data set.
- Use multiple views or multiple distinct feature sets of data set which give different partial information about a data set thus improving the graph-based learning performance.
- Incorporate the kernel method to consider the nonlinearity present in the data set and to solve the issue of choice of kernel, multiple kernel learning is also incorporated to improve the learning performance.
- Development of several robust graph-based learning algorithm by integrating multiple views and multiple kernel learning.

## STRENGTHS & SKILLS

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- **Languages:** Python, Matlab, C, Micro controller coding in Arduino IDE.
- **Deep learning:** Keras, TensorFlow, PyTorch.
- **Software skills:** OrCAD, Cadence, Android Studio.
- **Hardware skills:** Printed circuit board (PCB) design.

## WEBSITES

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- **Personal Site:** <https://supratimmanna121.wixsite.com/info>
- **GitHub:** <https://github.com/supratimmanna>
- **LinkedIn:** <https://www.linkedin.com/in/supratimmanna/>
- **Google Scholar:** <https://scholar.google.com/citations?hl=en&user=WTildI8AAAAJ>

## EXTRACURRICULAR ACTIVITIES

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Calisthenics, Sports, Trekking, Parkour.