

## Curriculum Vitae



### **PERSONAL DETAILS**

Name: Dr. Soumya Chatterjee

Present Address: 3/66A, Sanghati Colony, P.O: Naktala, Kolkata-700047

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Date and Place of Birth: 03.01.1988, Kolkata (West Bengal, India)

Nationality: Indian

Sex: Male

Google scholar link: <https://scholar.google.com/citations?user=fASc5B0AAAAAJ&hl=en>

Publons profile link: <https://publons.com/researcher/1451092/soumya-chatterjee/>

### **Work Experience**

#### **Assistant Professor of Electrical Engineering: (National Institute of Technology Durgapur)**

(August 2022-Present)

Subjects Taken:

UG: Electrical Technology, Network Theory

UG: Basic Electrical Laboratory, Electrical Machine Design, Electrical Measurement Laboratory, Embedded Systems Laboratory.

#### **Assistant Professor of Electrical and Electronics Engineering: (Birla Institute of Technology Mesra), Ranchi**

(September 2021-July 2022)

Subjects Taken:

UG: High voltage Engineering, Electrical machines.

UG: Laboratory: Basic Electrical Laboratory.

#### **Assistant Professor of Electrical Engineering: (Techno India University), Kolkata**

(November 2018-August 2021)

Subjects Taken:

UG: Field Theory, Control Systems, High voltage Engineering, Electrical Engineering Materials.

UG: Laboratory: Power Systems Laboratory.

PG: Advanced High Voltage Engineering (M.Tech-1<sup>st</sup> Year 1<sup>st</sup> Semester)

#### **Guest Faculty: Department of Electrical Engineering, (Jadavpur University), Kolkata**

(July 2017-Present)

Subjects Taken:

UG: Field Theory, Electrical Engineering Materials, Basic Electrical Technology, Principles of Electrical Engineering-I.

UG: Laboratory: Computer Simulation Laboratory, Electrical Machines Laboratory.

#### **Junior Research Fellow: High Tension Laboratory, Jadavpur University, Kolkata, India**

(August 2014-May 2017)

Department: Electrical Engineering

Project: An advanced method for insulation condition monitoring using accelerated dielectric response measurement, DST, Government of India.

**Assistant Professor of Electrical Engineering: (Calcutta Institute of Engineering and Management), Kolkata**

(March 2014-August 2014)

Department: Electrical Engineering

Subjects Taken:

UG: Electromagnetic Field Theory, Control Systems.

Laboratory: Basic Electrical Laboratory.

**(Research Assistant) Technische Universität Darmstadt (Germany)**

(March 2013 – June 2013)

Responsibilities:

1. Development of a Simulink Model for the optimum forecasting of Renewable Energy and production planning in any industrial processes.
2. The objective is to maximize the share of renewable energies in the related energy Mix (Solar PV and Wind) and minimize the electricity cost taking into account various constraints such as forecast and actual demand, current price, different time horizons, etc.

**Electrical Power Distribution Engineer: (Calcutta Electric Supply Corporation Limited Kolkata)**

(July 2009 – August 2011)

Responsibilities:

1. Underground Power Transmission and Distribution project including laying and commissioning of 132 kV XLPE Cable Circuit
2. MV and HV cable jointing, termination
3. High voltage Transformer Erection 15-20 MVA, 55 MVA
4. Cable fault location
5. Condition monitoring

**Academic Qualification**

**Jadavpur University, Kolkata:**

Doctor of Philosophy (Ph.D.) in Electrical Engineering (April 2016-September 2019)

GPA: 10/10, First Class.

Thesis Title: Studies on measurement time reduction techniques for insulation diagnostics in high voltage equipment.

Date of registration: 18.04.2016

Registration Number: D-7/E/195/16

Date of Thesis Submission: 14<sup>th</sup> March 2019.

Date of Thesis defence: 13<sup>th</sup> September 2019.

Date of Degree Awarded: 1<sup>st</sup> October 2019.

**Technische Universität Darmstadt (Germany):**

Masters of Science (MSc), Electrical Power Engineering, (October 2011 – January 2014)

GPA: 2.51, Good.

Thesis Title: Investigations on the influence of viscosity, conductivity and permittivity of water droplet on the partial discharge (PD) inception voltage of polymeric insulators in the presence of water droplets.

**Jadavpur University, Kolkata:**

Bachelor of Engineering (B.E.), Electrical Engineering, (July 2005 – May 2009)

GPA: 7.89/10, First class

**Higher secondary examination, South Point High School, Kolkata**

Year of passing: 2005

Subjects: Science

Marks: 916/1000 (91.6%), First Division

**Madhyamik examination, Nava Nalanda High School, Kolkata**

Year of passing: 2003

Subjects: General, Additional Mathematics

Marks: 742/800 (92.75%), First Division

**Research Interest:**

Condition monitoring of high voltage equipment, Condition monitoring of rotating machines, Pattern recognition, Graph theory and complex network analysis, Signal processing applications in healthcare, Brain computer interface and Machine learning.

**Research Supervision****M.Tech Thesis supervision:**

| No | Student Name                | Title of the Thesis   | Co-supervisor   | Status   | Year | Affiliation             |
|----|-----------------------------|---|---|----------|------|-------------------------|
| 1  | Mr. Sayanjit Singha Roy     | Detection and Classification of Partial Discharge Sources for Condition Monitoring of Electrical Insulation Employing Visibility Graph Theory | -   | Complete | 2021 | Techno India University |
| 2  | Mr. Sudip Modak             | Discrimination of Focal and Non-focal Epileptic EEG Signals Employing Cross Wavelet transform and Deep Learning                               | -   | Complete | 2021 | Techno India University |
| 3  | Mr. Kaniska Samanta         | Modified Stockwell Transform with Optimum Selection of Window parameters for Improved Time-frequency Analysis of Bio-potentials               | -   | Complete | 2021 | Techno India University |
| 4  | Mr. Soudip Pal              | Studies on islanding and non-islanding events in grid connected solar PV system   | Dr. Ratan Mondal, School of Energy Studies, Jadavpur University | Complete | 2021 | Jadavpur University     |
| 5  | Mr. Samad Sohail            | Study on aging characteristics of insulation system   | -   | Complete | 2022 | BIT Mesra               |
| 6. | Mr. Prasanth Kumar Balpande |   | -   |          | 2024 | NIT Durgapur            |

**PhD Thesis supervision:**

| No | Student Name            | Title of the Thesis   | Co-supervisor   | Registration Details                              | Status  |
|----|-------------------------|---|---|---|---------|
| 1  | Mrs. Ananya Chakraborty | Detection and Classification of Transient Disturbances in Power System using Advanced Signal processing and Machine Learning Techniques | Dr. Ratan Mondal, School of Energy Studies, Jadavpur University | Registered in Jadavpur University, December 2018. | Ongoing |

**Publications****Book Chapters: (04)**

1. R. Bose, K. Samanta, **S. Chatterjee**, S. Bhattacharyya and A. Khasnobish, "Motor Imagery Classification Enhancement with Concurrent Implementation of Spatial Filtration and Modified Stockwell

Transform”, K. Pal (eds.), **Bioelectronics and Medical Devices**, Woodhead Publishing Oxford, UK, Elsevier, 1<sup>st</sup> Edition, Chapter:31, pp. 798-817, June, 2019. ISBN: 978-0-08-102420-1.

2. K. Samanta, **S. Chatterjee**, and R. Bose, “A Deep Learning Framework for Emotion Recognition Using Improved Time-frequency Image Analysis of EEG Signals”, V. Bajaj (eds.), **Modeling and Analysis of Active Biopotential Signals in Healthcare-volume 2**, IOP Publishing Ltd, UK, Chapter:2, pp.1-28, December 2020, Online ISBN: 978-0-7503-3411-2.

3. S. S. Roy, S. Roy, S. Modak and **S. Chatterjee**, “Cross Wavelet Transform Aided Focal and Non-Focal EEG Signals Classification Employing Deep Feature Extraction”, V. Bajaj (eds.), **Modeling and Analysis of Active Biopotential Signals in Healthcare-volume 2**, IOP Publishing Ltd, UK, Chapter:5, pp.1-29, December 2020, Online ISBN: 978-0-7503-3411-2.

4. S. S. Roy, S. Modak, K. Samanta, **S. Chatterjee** and R. Bose, “Detection of Epileptic Electroencephalogram Signals Employing Visibility Graph Motifs”, V. Bajaj (eds.), **Computer-aided Design and Diagnosis Methods for Biomedical Applications**, CRC Press, Taylor and Francis, USA, 1<sup>st</sup> Edition, Chapter:3, pp.57-88, April 2021, Online ISBN: 9780367638832.

### **Journal Publications: 33**

#### **IEEE Transactions/Journals/Letters (24)**

1. S. Das, A. Paramane, **S. Chatterjee** and U. M. Rao, "Sensing Incipient Faults in Power Transformers Using Bi-directional Long Short-term Memory Network", **IEEE Sensors Letters**, vol. 7, no.1, Article Sequence Number: 7000204.

2. S. S. Roy, A. Paramane, J. Singh, **S. Chatterjee** and A.K.Das, "Accurate Sensing of Insulator Surface Contamination Using Customized Convolutional Neural Network", **IEEE Sensors Letters**, vol.7, no.1, Article Sequence Number: 700304.

3. S. Das, A. Paramane, **S. Chatterjee** and U. M. Rao, "Accurate Identification of Transformer Faults from Dissolved Gas Data Using Recursive Feature Elimination Method", **IEEE Transactions on Dielectrics and Electrical Insulation**, (In Press), 2022, DOI: 10.1109/TDEI.2022.3215936.

4. S. S. Roy, A. Paramane, J. Singh, X. Chen, F. Meng, C. Dai, A. K. Das, **S. Chatterjee** and Y. Tanaka, "Remote Condition Monitoring of HVDC Cable Insulation Using Deep Learning-Aided Space Charge Classification", **IEEE Transactions on Dielectrics and Electrical Insulation**, (In Press), 2022, DOI: 10.1109/TDEI.2022.3214171.

5. A. Das, **S. Chatterjee**, A.K. Pradhan, S.Dalai and B.Chatterjee, "Estimation of Moisture Content in XLPE Cable Insulation using Electric Modulus", **IEEE Transactions on Dielectrics and Electrical Insulation**, vol. 29, no. 3, pp. 1030-1037, 2022.

6. S. S. Roy, **S. Chatterjee**, S. Roy, P. Bamane, A. Paramane, U. M. Rao and M. T. Nazir "Accurate Detection of Bearing Faults Using Difference Visibility Graph and Bi-Directional Long Short-Term Memory Network Classifier," **IEEE Transactions on Industry Applications**, vol. 58, no. 4, pp. 4542-4551, 2022.

7. **S. Chatterjee**, S.S. Roy, A. Chatterjee, B. Ganguly and S.Paul, "Recognition of Hydrophobicity Class of Polymeric Insulators Employing Residual Morphological Neural Network and Granulometry Based Image Analysis", **IEEE Transactions on Instrumentation and Measurement**, vol. 71, pp. 1-9, 2022.

8. N. Haque, A. Jamshed, K. Chatterjee and **S. Chatterjee**, "Accurate Sensing of Power Transformer Faults from Dissolved Gas Data using Random Forest Classifier Aided by Data Clustering Method", **IEEE Sensors Journal**, vol. 22, no. 6, pp. 5902-5910, 15 March15, 2022.

9. S. Chowdhury, N. Haque, **S. Chatterjee**, A. K. Pradhan and S. Chakravorti, "Temperature Compensation of Frequency Domain Spectroscopy Measurement for Condition Assessment of Oil-Paper Insulation," **IEEE Transactions on Dielectrics and Electrical Insulation**, vol. 29, no. 1, pp. 255-263, 2022.

10. A. K. Das, **S. Chatterjee**, S. Dalai and B. Chatterjee, "Cross Spectrum Aided Surface Condition Assessment of Metal Oxide Surge Arrester Employing Convolutional Neural Network", **IEEE Transactions on Dielectrics and Electrical Insulation**, vol.28, no.6, pp.2134-2143, 2021.
11. S. Modak, S. S. Roy, R. Bose and **S. Chatterjee**, "Focal Epileptogenic Area Recognition Employing Cross EEG Rhythm Spectrum Images and Convolutional Neural Network", **IEEE Sensors Journal**, vol. 21, no.20, pp.23335-23343, 2021.
12. S. Maur, **S. Chatterjee**, N. Haque, P. Preetha, S. Dalai and B. Chatterjee, "Sensing the Thermal Aging of Epoxy Alumina Nano-Composites Using Electric Modulus", **IEEE Sensors Journal**, vol.21. no.10, 12236-12244, 2021.
13. S. S. Roy and **S. Chatterjee**, "Partial Discharge Detection Framework Employing Spectral Analysis of Horizontal Visibility Graph", **IEEE Sensors Journal**, vol.21. no.4, pp.4819-4826, 2021.
14. S. S. Roy and **S. Chatterjee**, "Complex Network Aided Partial Discharge Signal Recognition Framework Employing Visibility Graph", **IEEE Sensors Letters**, vol.4, no.8, pp.1-4, 2020, Article Sequence Number: 7003104.
15. **S. Chatterjee**, S. S. Roy, K. Samanta and S. Modak, "Sensing Wettability Condition of Insulation Surface Employing Convolutional Neural Network", **IEEE Sensors Letters**, vol.4, no.7, pp.1-4, 2020, Article Sequence Number: Article Sequence Number: 5501104.
16. **S. Chatterjee**, N. Haque, A.K. Pradhan, S. Dalai and B. Chatterjee, "Estimation of Conductivity at Reduced Time for Sensing Moisture Content of Oil-Paper Insulation", **IEEE Sensors Journal**, vol.20. no.21, pp.12999-13006, 2020.
17. R. Bose, K. Samanta, S. Modak and **S. Chatterjee**, "Augmenting Neuromuscular Disease Detection Using Optimally Parameterized Weighted Visibility Graph", **IEEE Journal of Biomedical and Health Informatics**, vol. 25, no. 3, pp. 685-692, 2021.
18. S. S. Roy, S. Dey and **S. Chatterjee**, "Autocorrelation Aided Random Forest Classifier Based Bearing Fault Detection Framework", **IEEE Sensors Journal**, vol.20. no.18, pp. 10792-10800, 2020.
19. S. S. Roy, K. Samanta, S. Modak, **S. Chatterjee** and R. Bose, "Cross Spectrum Aided Deep Feature Extraction Based Neuromuscular Disease Detection Framework", **IEEE Sensors Letters**, vol.4, no.6, pp.1-4, 2020, Article Sequence Number: 6000704.
20. K. Samanta, **S. Chatterjee** and R. Bose, "Cross Subject Motor Imagery Tasks EEG Signal Classification Employing Multiplex Weighted Visibility Graph and Deep Feature Extraction", **IEEE Sensors Letters**, vol.4, no.1, pp.1-4, 2020, Article Sequence Number: 7000104.
21. **S. Chatterjee**, S. Dalai, S. Chakravorti and B. Chatterjee, "Accelerating Moisture Content Sensing of Oil impregnated paper Insulation Using Frequency Modulated Square Wave Excitations", **IEEE Sensors Letters**, vol.3, no.7, pp.1-4, 2019, Article Sequence Number: 5500504.
22. **S. Chatterjee**, K. Samanta, N. Ray Choudhury and R. Bose, "Detection of Myopathy and ALS Electromyograms Employing Modified Window Stockwell Transform", **IEEE Sensors Letters**, vol.3, no.7, pp.1-4, 2019, Article Sequence Number: 7001204.
23. **S. Chatterjee**, A.K. Pradhan, S.Dalai, S.Chakravorti and B.Chatterjee, "A Non-linear Model for Sensing Moisture Content in Transformers at Reduced Time", **IEEE Sensors Journal**, vol.19, no.12, pp.4639-4646, 2019.
24. **S. Chatterjee**, S.Dalai, S.Chakravorti and B.Chatterjee, "Use of Chirp Excitations for Frequency Domain Spectroscopy Measurement of Oil-paper Insulation," **IEEE Transactions on Dielectrics and Electrical Insulation**, vol.25, no.2, pp. 1103-1111, 2018.

### **IET Journals: (8)**

25. A.K. Das, S. Deb, **S. Chatterjee**, B. Chatterjee and S. Dalai, "Convolutional neural network and Bi-directional long short memory Hybrid Deep Network Aided Infra-Red Image Classification Framework for Non-contact Monitoring of Overhead Insulators", **IET Signal Processing**, vol. 16, no. 6, pp. 722– 732, 2022.
26. **S. Chatterjee**, S. S. Roy, R. Bose and S. Pratiher, "Feature Extraction from Multifractal Spectrum of Electromyograms for Diagnosis of Neuromuscular Disorders", **IET Science, Measurement and Technology**, vol. 14, no.7, pp. 817-824, 2020.
27. **S. Chatterjee**, "Detection of Focal Electroencephalogram Signals Using Higher Order Moments in EMD-TKEO domain", **IET Healthcare Technology Letters**, vol.6, no.3, pp.64-69, 2019.
28. R.Bose, S.Pratiher, and **S. Chatterjee**, "Detection of Epileptic Seizure Employing a Novel Set of Features Extracted from Multifractal Spectrum of Electroencephalogram signals", **IET Signal Processing**, vol.13, no.2, pp. 157–164, 2019.
29. **S. Chatterjee**, S.Pratiher, and R.Bose, "Multifractal Detrended Fluctuation Analysis Based Novel Feature Extraction Technique for Automated Detection of Focal and Non Focal Electroencephalogram Signals", **IET Science, Measurement & Technology**, vol.11, no.8, pp. 1014–1021, 2017.
30. **S. Chatterjee**, N.Ray Choudhury and R.Bose, "Detection of Epileptic Seizure and Seizure-free EEG Signals Employing Generalized S-Transform", **IET Science, Measurement & Technology**, vol.11, no.7, pp. 847–855, 2017.
31. **S. Chatterjee**, A.K. Pradhan, S.Dalai, B.Chatterjee and S.Chakravorti, "Reducing Frequency Domain Spectroscopy Measurement Time for Condition monitoring of Oil-Paper Insulation using Non-sinusoidal Excitations", **IET Science, Measurement & Technology**, vol.11, no.2, pp. 204–212, 2017.
32. A. K. Pradhan, **S. Chatterjee**, A. Banik, S. Dalai and B. Chatterjee, "Condition Assessment of Outdoor Porcelain Insulator based on Dielectric Dissipation Factor Evaluated from Non-linear Equivalent Circuit", **IET Science, Measurement & Technology**, vol.10, no.8, pp. 866–873, 2016.

### **Wiley Journals: (1)**

33. K. Samanta, **S. Chatterjee** and R. Bose, "Neuromuscular Disease Detection Based on Feature Extraction from Time-frequency Images of EMG signals Employing Robust Hyperbolic Stockwell Transform", **International Journal of Imaging Systems and Technology, Wiley**, vol.32, no.4, 2022.

### **Conference Proceedings: IEEE/IET (42)**

1. S. Gorre, P. Mishra, M. Agarwal, A. Paramane and S. Chatterjee, "Effect of Transformer oil on Silicone Rubber Nano-Micro Composites", Proceedings of **8<sup>th</sup> International Conference for Convergence in Technology**, Pune, Maharashtra, India, 2023.
2. P. Soni, D. Mondal, **S. Chatterjee** and P. Mishra, "Deep Learning Technique for Recurrence Plot-Based Classification of Power Quality Disturbances", Proceedings of **1<sup>st</sup> IEEE International Power and Renewable Energy Conference (IPRECON)**, Karunagappally, Kerala, India, 2022.
3. S. Modak, **S. Chatterjee** and S. Roy, "Deep Learning-Based Discrimination of Focal Electroencephalogram Signals Employing Cross Stockwell Transform", Proceedings of **6<sup>th</sup> IEEE International Conference on International Conference on Condition Assessment Techniques in Electrical Systems (CATCON)**, Durgapur, West Bengal, India, 2022.
4. R. Das, A. K. Das, **S. Chatterjee**, S. Biswas, S.Dalai, B.Chatterjee and K. Bhattacharyya, "Time-frequency Representation aided Deep Transfer Learning Approach for Localization and Identification of Single and Multiple Partial Discharge Events", Proceedings of **6<sup>th</sup> IEEE International Conference on**

**International Conference on Condition Assessment Techniques in Electrical Systems (CATCON)**, Durgapur, West Bengal, India, 2022.

5. S. S. Roy, A. Paramane, J. Singh, **S. Chatterjee** and A. K. Das, “Hydrophobicity Grade Detection of Polymeric Insulator Using Image Visibility Graph”, **Proceedings of 6<sup>th</sup> IEEE International Conference on International Conference on Condition Assessment Techniques in Electrical Systems (CATCON)**, Durgapur, West Bengal, India, 2022.

6. S. Das, A. Paramane, **S. Chatterjee** and U.M. Rao, “Recursive Feature Elimination Aided Accurate Fault Classification in Power Transformers Using Dissolved Gas Data”, **Proceedings of 6<sup>th</sup> IEEE International Conference on International Conference on Condition Assessment Techniques in Electrical Systems (CATCON)**, Durgapur, West Bengal, India, 2022.

7. N. Modal, **S. Chatterjee**, N. Haque, S.Dalai, B.Chatterjee and S. Chakravorti, “Estimation of Epoxy-Mica Insulation Ageing Through Havriliak-Negami Relaxation Model on Dielectric Modulus Spectrum”, **Proceedings of 6<sup>th</sup> IEEE International Conference on International Conference on Condition Assessment Techniques in Electrical Systems (CATCON)**, Durgapur, West Bengal, India, 2022.

8. S. Maur, B. Chakraborty, A. K. Pradhan, **S. Chatterjee**, S.Dalai and B.Chatterjee, “Estimation of Thermal Aging of Epoxy-Alumina Nano-Composites for Dry-Type High Voltage Insulation Using Dielectric Modulus”, **Proceedings of 6<sup>th</sup> IEEE International Conference on International Conference on Condition Assessment Techniques in Electrical Systems (CATCON)**, Durgapur, West Bengal, India, 2022.

9. B. Chakraborty, S. Maur, A. K. Pradhan, **S. Chatterjee**, S.Dalai and B.Chatterjee, “Estimation of Paper Moisture within Vegetable Oil based Hybrid Nanofluid Impregnated Paper Using Capacitance Ratio”, **Proceedings of 6<sup>th</sup> IEEE International Conference on International Conference on Condition Assessment Techniques in Electrical Systems (CATCON)**, Durgapur, West Bengal, India, 2022.

10. S. S. Roy, A. Paramane, J. Singh and **S. Chatterjee**, “Accurate Hydrophobicity Grade Detection of Polymeric Insulators in Extremely Wetted and Humid Environments Using Bi-LSTM Neural Network Classifier”, **Proceedings of 20<sup>th</sup> IEEE Power Engineering and Society General meeting (PES GM)**, Denver, Colorado, USA, 2022.

11. S. Chowdhury, N. Haque, **S. Chatterjee**, S.Dalai and B. Chatterjee, “Estimation of Moisture Content of Oil-Paper Insulation in Transformers Using Electric Modulus”, **Proceedings of 5<sup>th</sup> IEEE International Conference on International Conference on Condition Assessment Techniques in Electrical Systems (CATCON)**, Calicut, Kerala, India, 2021.

12. S. Chowdhury, **S. Chatterjee**, N. Haque and S.Chakravorti, “Estimation of Activation Energy of Transformer Insulation from Frequency Domain Spectroscopy Measurement performed at a Particular Temperature”, **Proceedings of 39<sup>th</sup> IEEE Electrical Insulation Conference (EIC)**, Denver, Colorado, USA, 2021.

13. S. Chowdhury, **S. Chatterjee** and N. Haque, “Equivalent Circuit Modelling of Transformer Oil-Paper Insulation from Frequency Domain Spectroscopy Measurements”, **Proceedings of 3<sup>rd</sup> IEEE International Conference on Energy Power and Environment (ICEPE)**, Shillong, Meghalaya, India, 2021.

14. N. Mondal, **S. Chatterjee**, N. Haque, S.Dalai, B.Chatterjee and S.Chakravorti “Condition Monitoring of Epoxy Mica Composite Insulation Used in Rotating Machines Employing Electric Modulus”, **Proceedings of 1<sup>st</sup> IEEE International Conference on Power Electronics and Energy, (ICPEE)**, Bhubaneswar, India, 2021.

15. S.S. Roy, **S. Chatterjee**, R. Barman S.Roy and S. Dey, “Bearing Fault Detection in Induction Motors Employing Difference Visibility Graph”, **Proceedings of 9<sup>th</sup> IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES)**, Jaipur, India, 2020.

16. P.P.Chandra, S.S Roy and **S. Chatterjee**, “Neuromuscular Disease Detection Employing 1D-Local Binary Pattern of Electromyography Signals”, **Proceedings of 2<sup>nd</sup> IEEE International Conference on Applied Signal Processing (ASPCON)**, Kolkata, West Bengal, India, 2020.

17. K.Samanta, S.S. Roy, S.Modak, **S. Chatterjee** and R.Bose, “Neuromuscular Disease Detection Employing Deep Feature Extraction from Cross Spectrum Images of Electromyography Signals”, **Proceedings of 42<sup>nd</sup> IEEE Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)**, Montréal, Canada, 2020.
18. S. S. Roy, K. Samanta, **S. Chatterjee**, S. Dey, A. Nandi, R. Bhowmik and S.Mondal, “Hand Movement Recognition Using Cross Spectrum Image Analysis of EMG Signals-A Deep Learning Approach”, **Proceedings of 1<sup>st</sup> IEEE-National Conference on Emerging Trends on Sustainable Technology and Engineering Applications (NCETSTE)**, Durgapur, West Bengal, India 2020.
19. S. Modak, S. S. Roy, K. Samanta, **S. Chatterjee**, S.Dey, R. Bhowmik and R. Bose, “Detection of Focal EEG Signals Employing Weighted Visibility Graph”, **Proceedings of 4<sup>th</sup> IEEE International Conference on International Conference on Computer, Electrical & Communication Engineering (ICCECE)**, Kolkata, West Bengal, India, 2020.
20. S.Dey, S.S. Roy, K. Samanta, S. Modak and **S. Chatterjee**, “Autocorrelation Based Feature Extraction for Bearing Fault Detection in Induction Motors”, **Proceedings of 6<sup>th</sup> IEEE Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering (UPCON)**, Aligarh, Uttar Pradesh, India, 2019.
21. A. Nandi, S. Biswas, K. Samanta, S. S. Roy and **S. Chatterjee**, “Diagnosis of Induction Motor Faults Using Frequency Occurrence Image Plots–A Deep Learning Approach”, **Proceedings of 6<sup>th</sup> IEEE Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering (UPCON)**, Aligarh, Uttar Pradesh, India, 2019.
22. P. Bala, **S. Chatterjee**, S. S. Roy, R. Barman and N. Ray Choudhury, “Stress Control on RTV Coated Porcelain Disc Insulator using BaTiO<sub>3</sub> Nano-composites in Presence of Dry bands”, **Proceedings of 3<sup>rd</sup> IEEE International Conference on International Conference on Computer, Electrical & Communication Engineering (ICCECE)**, Kolkata, West Bengal, India, 2019. **(Best Research Paper Award)**
23. **S. Chatterjee**, N. Haque, A. K. Pradhan, S. Dalai and B. Chatterjee, “Conductivity Estimation for Reliable Assessment of Power Transformer Insulation at Reduced Time”, **Proceedings of 8<sup>th</sup> IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES)**, Chennai, India, 2018.
24. N. Ray Choudhury, S. S. Roy, A. Pal, **S. Chatterjee** and R. Bose, “Epileptic Seizure Detection Employing Cross-Hyperbolic Stockwell Transform”, **Proceedings of 4<sup>th</sup> IEEE International Conference on Research in Computational Intelligence and Communication Networks (ICRCICN)**, Kolkata, West Bengal, India, 2018.
25. S. S. Roy, R. Jana, R. Barman, S. Modak, P. Halder, R. Bose and **S. Chatterjee**, “Detection of Healthy and Neuropathy Electromyograms Employing Stockwell Transform”, **Proceedings of 1<sup>st</sup> IEEE International Conference on Applied Signal Processing (ASPCON)**, Kolkata, West Bengal, India, 2018.
26. S. Badani, S. Saha, A. Kumar, **S. Chatterjee** and R. Bose, “Detection of Epilepsy Based on Discrete Wavelet Transform and Teager-Kaiser Energy Operator”, **Proceedings of 3<sup>rd</sup> IEEE Calcutta Conference (CALCON)**, Kolkata, West Bengal, India, 2017.
27. S. Chatterjee, S. Dalai, B. Chatterjee and S. Chakravorti, “A Method to Reduce FDS Measurement Time Using Logarithmic Chirp Excitation Voltage,” **Proceedings of 3<sup>rd</sup> IEEE International Conference on Condition Assessment Techniques in Electrical Systems (CATCON)**, Rupnagar, Punjab, India, 2017.
28. A. Das, S. Samata, S. Alam, S. Kumar, D. Sengupta, **S. Chatterjee** and R.Bose, "Recognition of Power System Transients Based on Higher Order Statistical Moments Using Empirical Mode Decomposition", **Proceedings of 2<sup>nd</sup> IEEE International Conference on Smart Technologies and Management for Computing, Communication, Controls, Energy and Materials (ICSTM)**, Chennai, India, 2017.



29. A. Das, D.K. Ghosh, R. Bose and **S. Chatterjee**, "Electric Stress Analysis of a Contaminated Polymeric Insulating Surface in Presence of Dry Bands", Proceedings of **1<sup>st</sup> IEEE International Conference on Intelligent Control Power and Instrumentation (ICICPI)**, Kolkata, West Bengal, India, 2016. (**Best Paper Award in Sensors, Measurement and Instrumentation Session**)
30. R. Bose, K. Samanta and **S. Chatterjee**, "Cross-Correlation Based Feature Extraction from EMG Signals for Classification of Neuro-muscular Diseases", Proceedings of **1<sup>st</sup> IEEE International Conference on Intelligent Control Power and Instrumentation (ICICPI)**, Kolkata, West Bengal, India, 2016.
31. S. Bhattacharyya, B.Saha, A.Chakraborty and **S. Chatterjee**, "Electric Stress Analysis of a Medium Voltage Cable Termination Subjected to Standard and Non-Standard Lightning Impulse Voltages", Proceedings of **1<sup>st</sup> IEEE International Conference on Intelligent Control Power and Instrumentation (ICICPI)**, Kolkata, West Bengal, India, 2016. (**Best Paper Award in Power and Energy Session**)
32. R. Bose and **S. Chatterjee**, "Comparative study of Electrode Configurations in Different Brain Tumor Geometry for Effective Electrochemotherapy" Proceedings of **3<sup>rd</sup> IEEE International Conference on Recent Advances in Information Technology, (RAIT)**, Dhanbad, Jharkhand, India, 2016.
33. R. K. Dholey, R. Bose, P. Roy and **S. Chatterjee**, "Electric Field Computation in Presence of Water Droplets on a Polymeric Insulating Surface", Proceedings of **2<sup>nd</sup> IEEE International Conference on Control, Instrumentation, Energy and Communication (CIEC)**, Kolkata, West Bengal, India, 2016.
34. R. Bose, K. Samanta, K. Ghosh, R. Bandyopadhyay and **S. Chatterjee**, "Transient Analysis of Mechanically Switched Capacitors with and without Damping Network Connected to A.C Grid", Proceedings of **2<sup>nd</sup> IEEE International Conference on Control, Instrumentation, Energy and Communication (CIEC)**, Kolkata, West Bengal, India, 2016. (**Best Paper Award in Smart Grid Session**)
35. R. Bose, P. Bala and **S. Chatterjee**, "Design of Grading Material for Electric Stress Control in a Polymeric Disc Insulator", Proceedings of **2<sup>nd</sup> IEEE International Conference on Power and Energy System: Towards Sustainable Energy (PESTSE)**, Bengaluru, India, 2016.
36. P. Bala, R. Bose and **S. Chatterjee**, "Electric Stress Analysis of 11kV RTV Silicone Rubber Coated Porcelain Insulator", Proceedings of **2<sup>nd</sup> IEEE International Conference on Power and Energy System: Towards Sustainable Energy (PESTSE)**, Bengaluru, India, 2016.
37. **S. Chatterjee**, A. Banik, S. Dalai and B. Chatterjee, "Identification of Salt and Salinity Level of 11kV Contaminated Porcelain Disc Insulator using STD-MRA Analysis of Leakage Current," **Proceedings of 2<sup>nd</sup> IEEE International Conference on Condition Assessment Techniques in Electrical Systems (CATCON)**, Bengaluru, Karnataka, India, 2015.
38. R. Bose, R.K Dholey, P. Roy, **S. Chatterjee** and A.K. Pradhan, "Estimation of Damping resistor in a Mechanically Switched Capacitor with Damping Network at Different Tuning Frequencies during switching" Proceedings of **1<sup>st</sup> IEEE Power Communication and Information Technology Conference (PCITC)**, Bhubaneswar, Orissa, India, 2015.
39. M. Mukherjee, **S. Chatterjee** and S. Dalai, "Electric Field Enhancement in a Polymeric Insulated Power Cable containing Different voids and Protrusions" **Proceedings of 3<sup>rd</sup> Michael Faraday IET International Summit (MFIIS)**, Kolkata, West Bengal India, 2015.
40. **S. Chatterjee** and M.H. Nazemi, "Influence of Viscosity and conductivity of water droplets on Partial Discharge Inception Voltage of Polymeric Insulating Surfaces" Proceedings of **1<sup>st</sup> IEEE International Conference on Energy Power and Environment (ICEPE)**, Shillong, Meghalaya, India, 2015.
41. **S. Chatterjee**, A.K. Pradhan, B. Chatterjee and S. Chakravorti, "An Advanced Technique for Frequency Domain Spectroscopy of Oil-Paper Insulation at Reduced Time using Triangular Excitation" Proceedings of **1<sup>st</sup> IEEE International Conference on Energy Economics and Environment, 1<sup>st</sup> UPCON (ICEEE)**, Greater Noida, Uttar Pradesh, India, 2015.

42. S. Dogra, **S. Chatterjee**, S.Ghosh, R. Ray, D. Bhattacharya and S. K. Sarkar, “A Novel Proposal for Detection of Avian Influenza and Managing Poultry in a Cost Efficient Way Implementing RFID” Proceedings of **2<sup>nd</sup> IEEE International Conference on Advances in Recent Technologies in Communication and Computing (ARTCOM)**, Kottayam, Kerala, India, 2010.

| Skill Set |  |
|-----------|--|
| Languages | C/C++  |
| Software  | COMSOL, MATLAB, PSCAD, FEMAG 2D, Ansys, 8051 Assembly Language Programming |
| Packages  | MS Office, Latex   |

### Additional Information

#### Language Proficiency:

- English Full professional proficiency International Test: GRE and TOEFL in 2010
- German Working proficiency
- Hindi Native proficiency
- Bengali Mother tongue

#### Awards and Scholarships:

1. National Scholarship by Government of India in 2003.
2. Vidyasagar Scholarship by Nava Nalanda High School, India in 2003.
3. National Scholarship by MHRD Government of India, in 2005.
4. Junior Research Fellowship by Jadavpur University, India in 2014.
5. Best Research Paper award in IEEE International Conference (ICCECE) in 2019.

#### Membership and other activities:

1. Member IEEE, USA (DEIS, PES, IAS, SPS and Sensors Council)
2. Treasurer- IEEE DEIS Kolkata Chapter
3. Registration Chair, IEEE CATCON 2022.
4. Reviewer of the following journals:
  - (i) IEEE Transactions on Dielectrics and Electrical Insulation
  - (ii) IEEE Transactions on Power Delivery
  - (iii) IEEE Journal of Biomedical and Health Informatics
  - (iv) IEEE Sensors Letters
  - (v) IEEE Transactions on Neural Systems and Rehabilitation Engineering
  - (vi) IEEE Sensors Journal
  - (vii) IEEE Systems Journal
  - (viii) IEEE Access Journal
  - (ix) IEEE Transactions on Industry Applications
  - (x) IEEE Industry Applications Magazine
  - (xi) IET Signal Processing
  - (xii) IET Generation, Transmission and Distribution
  - (xiii) IET Image Processing
  - (xiv) IET Computers and Digital Techniques
  - (xv) IET Science, Measurement and Technology
  - (xvi) Journal of Neuroscience methods, Elsevier
  - (xvii) Cellulose, Springer
  - (xviii) International Transactions on Electrical Energy systems, Wiley
  - (xix) International Journal of Imaging Systems and Technology, Wiley
  - (xx) IET High Voltage

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