Dr. Debashis Chakraborty

Associate Professor

✉ debashisc77@gmail.com   📞 9051260845

📍 837, Balaji Tower, Block- C, Madurdaha, Kolkata-700107, West Bengal

🎂 30/11/1977   🔗 linkedin.com/in/dr-debashis-chakraborty-b3471747

🆔 0000-0002-5777-8193

👤 PROFILE

A dedicated and innovative educator with over **20 years of experience in higher education**, specializing in embedded systems and statistical signal processing. Proven track record of delivering engaging lectures, mentoring students, and contributing to research initiatives. Adept at developing and implementing curriculum across disciplines (CSE and ECE) that enhances student learning and fosters critical thinking. Strong collaborator with experience in interdisciplinary projects, placement and career development with innovative engagements of the students. Committed to advancing academic excellence and promoting an inclusive learning environment. Additionally, **3 years of core industry experience** handling Big Data and heading the Centre of Excellence (CoE) for business analytics gives me an extra edge to be selected as a mentor for budding students.

💼 PROFESSIONAL EXPERIENCE

04/2024 – present
Kolkata, West Bengal

Adamas University
Associate Professor, Dept. of CSE

- Presently I am serving in the department of CSE. My key responsibility has been teaching and research. Besides, I am also handling various administrative roles such as student admission, registration and engagements for the entire School of Engg and Tech (SOET).
- I have been appointed as the **SPOC** for the **Career Development Cell (CDC)** of SOET to mentor and facilitate the campus placement and training of passing-out students.
- Maintaining all departmental databases and implementing Dashboards with valuable insights using Power BI software and reporting to the top management have been some of my core responsibilities.
- Myself has also been selected as the **SPOC** for the implementation of **University Management Systems (UMS)** and arranging training for the students as well as faculty members.
- I have also led a team to implement dashboards to visualize **CO-PO attainment** and success rate of students while doing the result analysis.
- Finding Root Cause Analysis (RCA) and aligning with the Key Performance Indicators (KPI) and Key Responsibility Area (KRA) of the stakeholders is my current domain of analysis to achieve departmental excellence.

Courses taught by myself this semester are: **Computer Networks, Data Mining and Big Data Analysis, and Circuit Switching and Logic Design.**

02/2024 – 03/2024
Dhenkanal, Odisha

Rungta Mines Ltd. (RML), Dhenkanal Steel Plant, Odisha
DGM, Project Planning and Execution

I joined the company for a very short period as a Project Planning and Execution Head in the post of Deputy General manager (DGM). My key responsibilities were tracking and monitoring various running and upcoming projects with the complete digitalization of different steel plants under the Rungta Steel group. Handling processes and all kinds of complex data throughout the 3.5 MTPA plant was my initial assignment.

09/2021 – 01/2024 Rourkela, Odisha	**Shri Mahavir Ferro Alloys Pvt. Ltd., Rourkela, Odisha** **General Manager and Head, Centre of Excellence**

Key Responsibilities:
- Led a team of 15 data analysts in collecting, analyzing, and interpreting data to support strategic decision-making. To develop & promote the philosophy of continuous improvement and a culture of business excellence.
- Coordinate the development and ongoing use of the **Performance Management System (PMS)** – UMANG that supports the achievement of performance targets through agreed KPIs within budgeted cost.
- To optimize the use of appropriate technical and business excellence tools and maintain and pursue technology developments which improve business and support the achievement of SMFA objectives.
- R&D on latest technology developments in Pellet making, Billet making, and Sponge Iron technology to reduce production cost & increase throughput.
- Continuous process study – identify bottlenecks and implement de-bottlenecking solutions. Analyze complex data and interpret trends with respect to performance indicators and communicate this information in the form of dashboards / Reports to top management & end-users.
- Work with operational managers and staff to identify problems, review procedures, improve efficiency and quality of service provision and identify appropriate monitoring and auditing mechanisms
- Joint project with **IIT-BBSR and NIT-RKL** to improve process performances and increase throughput by reducing Breakdowns and other bottlenecks by complex Root Cause Analysis (**RCA**) and proposing Corrective and Preventive Actions (**CAPA**)
- Implementation of **AI-ML and Predictive Analysis for process improvement.**

01/2005 – 08/2021 Kolkata, India	**Future Institute of Engineering and Management** **Associate Professor**

- I served as an Associate Professor in the Future Institute of Engineering and Management, Sonarpur in the Department of Electronics and Communication Engineering (ECE) from 1st July 2013 till 30th August 2021.
- I have served as the **Head of the Department of ECE** department in my institute for over Five Years (From June 2011 to September 2016) and successfully led the department to achieve our vision and mission. During this tenure apart from executing various administrative jobs, my focus was on team building and teamwork, alongside motivating all the teachers and staff to achieve their academic and professional goals.
- Served as an Assistant Professor in Future Institute of Engineering and Management, Sonarpur in the department of Electronics and Communication Engineering from 1st August 2008 till June 2013.
- Served as a Senior Lecturer in Future Institute of Engineering and Management, Sonarpur in the department of Electronics and Communication Engineering from January 2006 till July 2008.
- Appointed as a Lecturer in Future Institute of Engineering and Management, Sonarpur in the department of Electronics and Communication Engineering from January 2005 till January 2006.

09/2001 – 01/2005 Siliguri, India	**Siliguri Institute of Technology** **Lecturer in the Department of ECE**

🎓 EDUCATION

Ph. D (Engineering)
Dept. of ETCE, Jadavpur University
09/2022 | Kolkata

M.E. (Computer Science & Engg.), Specialization - Embedded Systems,
West Bengal University of Technology (MAKAUT)
2005 – 2007 | Kolkata
- DGPA- 7.27

B.E (Electronics Engineering)
Nagpur University
1997 – 2001 | Chandrapur, Maharashtra
- Passing (%) - 72.5 %

12th Standard (Science)
Jodhpur Park Boys School
1994 – 1996 | Kolkata
- Passing (%) - 79.4 %

10th Standard
Jadavpur High School
1994 | Kolkata
- Passing (%) - 83.5 %

📈 SKILLS

Business Excellence
- Lean Management Practices
- Develop Business Excellence Insights using the Power BI Analytical Tool and Data Visualization
- Complete Digitization of Plant Data Structure using Google Workspace (Paperless Factory Initiative)
- Plant Dashboards and Process Monitoring, KPI Tracking at all levels, from Procurement to Sales
- Contract Monitoring
- Plant-based Logistics Analysis and its Optimization
- IoT-based solutions for Predictive Maintenance (PM Module)
- Budget vs Actual and MIS
- Production Planning and Inventory Control (PPIC)
- Manpower Recruitment and Cost Analysis
- AI-ML-based Process Optimization, Statistical Analysis, Forecasting and Modelling
- Improvement using TAT Analysis and Efficiency Dashboards (Process and Quality)
- RCA and CAPA Tracking
- Reduction of Specific Energy Consumption etc.
- OEE analysis
- Cross Functional Team Management and Leadership

🔬 RESEARCH

I have completed my PhD (Engg.) program under the supervision of Prof. (Dr.) Salil Kumar Sanyal, E.T.C.E. Dept., Jadavpur University, Kolkata (WB) in 2022 and the title of my PhD thesis is **"Studies on some Spectrum Sensing Algorithms Based on Parametric Methods: Extension to Test Bed Implementation for Cognitive Radio".** My research focus has been efficient spectrum estimation and detection algorithm implementation for Cognitive Radio applications in the wireless domain, where the availability of spectrum nowadays has become a big issue for radio engineers. The statistical signal processing for spectrum estimation as obtained in parametric approaches has been utilized and prototyped in a real testbed for practical implementations.

🏛 PUBLICATIONS

Journal and Conference Publications
[1]	Debashis Chakraborty and Salil Kr. Sanyal, "Time-series data-optimized AR/ARMA model for frugal spectrum estimation in Cognitive Radio", **Physical Communication**, **Elsevier,** Volume 44, 2020, 101252, DOI.org/10.1016/j.phycom.2020.101252 ⧉ (**SCI Journal)**
[2]	Debashis Chakraborty and Salil Kr. Sanyal, "Testbed Implementation of a Scalable ARIMA model for Spectrum Estimation in Cognitive Radio-A Null Hypothesis Approach", Published in **IETE Journal of Research** on 1st July, 2021, DOI: 10.1080/03772063.2021.1944336 **(SCI Journal)**
[3] Statistical Optimization of WARP Radio Board Parameters for Frugal Spectrum Estimation Using AR Model ⧉ , D Chakraborty, SK Sanyal, Wireless Personal Communications, 1-22
[4]	Debashis Chakraborty and Salil Kr. Sanyal - "A Multi-Stage Adaptive Spectrum Estimation Model for Cognitive Radio based on Time Series Analysis", --**Communicated**
[5]	Debrina Dutta and Debashis Chakraborty, "A deep convolutional neural network based framework for breast cancer detection", 2020 IEEE International Women in Engineering (WIE) Conference on Electrical and Computer Engineering (WIECON-ECE), Bhubneswar, India. DOI: 10.1109/WIECON-ECE52138.2020.9398008

[6] Debashis Chakraborty and Salil Kr. Sanyal, "A Comparative Study of Parametric Spectrum Estimation Techniques for Cognitive Radio using Testbed Prototyping", International Conference on Computational Advancement in Communication Circuits and Systems (ICCACCS-2020), Presented on 19th December 2020. The paper was awarded **Best Paper**.

[7] Debrina Dutta and Debashis Chakraborty, "A novel Convolutional Neural Network based model for an all-terrain driving autonomous car", Presented in 2nd International Conference on Advances in Computing, Communication Control and Networking (ICACCCN), Nov 2020. Greater Noida, India. DOI: 10.1109/ICACCCN51052.2020.9362818

[8] WARP Test Bed Implementation of Lag Order and Data Length-optimized AR Spectrum Estimation Algorithm, Published: Jul 2019,
DOI: 10.1007/978-981-13-8687-9_18

[9] Hardware Co-simulation of Reconfigurable FIR Filters on FPGA
Published: May 2018 in Lecture Notes in Electrical Engineering
DOI: 10.1007/978-981-10-7901-6_60

[10] "Implications of Big Data for Healthcare in Body Sensor Networks", IOSR Journal of Computer Engineering (IOSR-JCE) e-ISSN: 2278-0661,p-ISSN: 2278-8727, Volume 20, Issue 2, Ver. III (Mar. - Apr. 2018), PP 05-11
DOI: 10.9790/0661-2002030511

[11] "Hidden Markov model and Internet of Things hybrid driven smart hospital," *2017 8th International Conference on Computing, Communication and Networking Technologies (ICCCNT)*, 2017, pp. 1-7, doi: 10.1109/ICCCNT.2017.8204069.

[12] Brain-computer interfacing: A spectrum estimation based neurophysiological signal interpretation, Published: Feb 2017 in International Conference on Signal Processing and Integrated Networks (SPIN)
DOI: 10.1109/SPIN.2017.8050008

[13] Smart Home for Paralyzed Aid
International Research Journal of Engineering and Technology (IRJET) e-ISSN: 2395-0056 Volume: 04 Issue: 09 | Sep -2017 www.irjet.net ⧉ p-ISSN: 2395-0072

[14] Performance analysis of different Autoregressive methods for Spectrum Estimation along with their Real-Time Implementations.
Published: Sep 2016 in SECOND IEEE INTERNATIONAL CONFERENCE ON RESEARCH IN COMPUTATIONAL INTELLIGENCE AND COMMUNICATION NETWORKS (ICRCICN)
DOI: 10.1109/ICRCICN.2016.7813646

📚 BOOK CHAPTERS

[1] Book Title: Advances in Communication, Devices and Networking. Lecture Notes in Electrical Engineering,
Chapter Title: *Hardware Co-simulation of Reconfigurable FIR Filters on FPGA.*
Authors: Ghosh A., Chakraborty D. (2018)
DOI: 10.1007/978-981-10-7901-6_60
Publisher Name: **Springer**, Singapore
Print ISBN: 978-981-10-7900-9   Online ISBN: 978-981-10-7901-6

[2] Book Title: Computational Advancement in Communication Circuits and Systems
Chapter Title: *WARP Test Bed Implementation of Lag order and Data Length optimized AR Spectrum Estimation Algorithm*
Authors: D. Chakraborty and Salil Kumar Sanyal (2019)
DOI: 10.1007/978-981-13-8687-9
Publisher: **Springer**, Singapore
eBook ISBN: 978-981-13-8687-9
Hardcover ISBN 978-981-13-8686-2

[3] Book Title: **Computational Advancement in Communication, Circuits and Systems.**
Chapter Title: **A Comparative Study of Parametric Spectrum Estimation Techniques for Cognitive Radio Using Testbed Prototyping.**
Debashis Chakraborty and Salil Kr. Sanyal, Proceeding in International Conference on Computational Advancement in Communication Circuits and Systems (ICCACCS-2020), under publication by **Springer**, DOI: 10.1007/978-981-16-4035-3

⚜ OTHER ACADEMIC ACTIVITIES

●   I have been selected as a **Reviewer** for the peer-reviewed SCI Indexed International Journal, *Wireless Personal Communications,* under Springer Nature Engineering Series and Physical Communication (a peer-reviewed SCI indexed Q2 journal) under Elsevier.

●   Apart from regular teaching I have been involved in various teaching-learning processes, mentoring the students, setting up university question papers, evaluating semester answer scripts etc.

●   I have been appointed **Head Examiner** to guide examiners for many years.

●   I have been offered by the university to design the UG course on "FPGA and Reconfigurable Devices" for ECE students.

●   I have been assigned the job of **Examination coordinator** on behalf of the department to run various examination-related activities and guide the students to follow the rules and regulations practised by our institute

●   I have been appointed as a Single Point of Contact **(SPOC)** for running the National Program for Technology Enhanced Learning (**NPTEL**) courses and encourage students to take up more such courses in our institute and take the benefits of the national learning program over the digital platform. Notably, I have been successful in holding the rank within the top 50 colleges in India and attended various workshops under the program.

●   I have also been assigned the job of Coordinator for preparing the Self-Assessment Report under the guidelines of the National Board of Accreditation (**NBA**) and also to develop the department as per benchmark standards. Setting up a vision mission, preparation of the teaching-learning process, attainment of the course outcome etc. have been my key responsibilities

●   I have been given the Best Teacher Award many times from our institute.

🌐 LANGUAGES

English   ● ● ● ● ●

Bengali   ● ● ● ● ●

Hindi   ● ● ● ● ○

📑 CERTIFICATES

• **Microsoft Power BI Desktop for Business Intelligence, Udemy**
Pursuing

• **Lean Six Sigma Black Belt, Simplilearn**
Pursuing

📑 SEMINAR/ CONFERENCES ATTENDED

• Participated in the short-term course on Technology CAD for VLSI Design at IIT-KGP during June 4-7, 2008
• Attended QIP short-term course under Continuing Education Program on Satellite Communications Technology and Its Applications at IIT-KGP from March 16-21, 2009
• Participated in the UGC Sponsored Refresher Course in the subject Broadband Wireless Communication from 15th June-4th July 2009 at Jadavpur University, Kolkata
• Participated in a two-day workshop on "Quality Enhancement for Teachers in Engineering Education through NPTEL"
• Attended the faculty development program on "Virtual Embedded System Laboratory" at Future Institute of Engineering and Management on 1st October 2012
• Attended a five-day National workshop on Communication & Information Technology And Devices for Electronics (CITADEL) at Sikkim Manipal Institute of Technology in collaboration with the Institute of Radio-physics and Electronics, the University of Calcutta from 18th to 22nd of March, 2013
• Participated in One Week Workshop on Emerging Trends in Wireless Communications and Networking during the third week of November 2015 at the Electronics and Telecommunication Engineering Department at Jadavpur University in collaboration with IEEE ComSoc society
• Took participation in the NPTEL workshop in December 2016 at the Kolkata centre organized by IIT-KGP
• Convened and Coordinated the seminar on Recent Trends in Bio-Electronics and DNA Computing (RTBDC-2017) on March 29th, 2017 at FIEM, Kolkata
• Attended IEEE International Conference on Signal Processing and Integrated Networks (SPIN-2017) at Amity University, Noida from 2-3rd February 2017 and presented a conference paper
• Participated in the International Conference on Telecommunication, Power Analysis and Computing Techniques (ICTPACT-2017) at Bharath Institute of Higher Education and Research, Chennai from 6th-8th April 2017 in collaboration with IEEE society
• Took participation in the NPTEL workshop in January 2018 at the Kolkata centre organized by IIT-KGP

- Took part in a two-day workshop on "Data Science Through Python" at FIEM, Kolkata on 24-25th January 2018 organised by ECE department
- Convened a seminar on "Machine Learning and Embedded Systems" organized by the ECE department, FIEM on 16th February 2018
- Took participation in the NPTEL workshop in August 2018 at Kolkata centre organized by IIT-KGP
- Took participation in the NPTEL workshop in December 2018 at the Kolkata centre organized by IIT-KGP
- Attended International conference on "Computational Advancement in Communication Circuit and System (ICCACCS-2018)" in association with Springer at Narula Institute of Technology, Kolkata from 23-24th November 2018 and presented a conference paper
- Participated in SWYAM-NPTEL SPOC Workshop in Kolkata, on 2nd February 2019
- Actively participated in a three-day workshop on "Wireless Communication and Computing, IoT and Data Analytics", on 14-16 Feb 2019 as part of UGC-UPE-II academic program at Jadavpur University
- Attended a seminar on "Social Transformation in Smart Mode (STSM-2019)" at FIEM, Kolkata held on 8th March 2019

✏ DECLARATION

I, Debashis Chakraborty, hereby declare that all the information stated above is true to my knowledge and belief.

Dr. Debashis Chakraborty
Kolkata