# SHIULI SUBHRA GHOSH

**Enthusiastic graduate student born with an aptitude for data visualization, cognitive thinking, and excellence in public communication. Experienced Electrical Engineer with a strong knowledge of data-driven technologies for electrical systems. Excited to work in the interdisciplinary domain of Electrical Engineering, Data Science, and Applied Mathematics.**

## CONTACT


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@bonnya15
Shiuli Subhra Ghosh
IEEE publication list


## SKILLS

*Programming*

**Python**
**R**
**SQL**
**LaTeX**
**C**
**MATLAB**
**Hadoop**

*Software & Tools*

**Visualisation**
(e.g. matplotlib, ggplot, ...)
**Tableau**
**Data handling/analysis**
(e.g. numpy, scipy, pandas, ...)
**Office**

*Relevant Coursework*

- Probability and Statistics
- Machine Learning and Deep Learning
- Linear Optimization
- Linear Algebra and Analysis
- Time Series Analysis
- Control Systems and Power Systems
- Analog and Digital Electronics

*Languages*

**Bengali (Native Speaker)**
**English**
**Hindi**

## CERTIFICATES

- Training and Qualification Course for **"ISO 9001:2015 and IATF 16949:2016"** Certificate No: IAC/19919/03
- **"Python for Data Science"** from NPTEL
- **"Statistical Machine Learning"** from CAIML, ISI Kolkata

## EDUCATION

2020 - Present
Chennai Mathematical Institute, India
CGPA : 9.29
**Master of Science in Data Science**

2022 - Present
KU Leuven, Belgium
**International Scholar**

2014 - 2018
National Institute of Technology, Durgapur, India
CGPA : 8.62
**B.Tech in Electrical Engineering**

2012 - 2014
Bidhannagar Govt. High School
Marks : 85.8%
**Higher Secondary**

## WORK HISTORY

31 January 2022 - Present
imec, Belgium
**Master's Thesis/ Internship**
**Project Details:** Machine Learning applications on Semiconductor Manufacturing. Denoising and defect classification in CD SEM imgaes.

01 September 2021 - 10 January 2022
INESC TEC (Porto - Portugal)
Supervisor : Dr. Ricardo J Bessa
**Research Intern**
**Project Details:** Implementation of **incentive scheme** for **Energy Data Market** by improving the data allocation and profit distribution algorithms.

19 July 2021 - 24 September 2021
Legato Health Technologies (An Anthem Company)
**AI Digital Intern**
**Project Details:**
- Implementation of **statistical hypothesis testing for "Model Bias Detection Framework"** for binary class classification problems.
- Building a prototype for **Anthem AutoML**.

02 July 2018 - 02 Jan 2021
Jindal Stainless Limited, India
**Associate Manager, CRM E&A**
**MV line in-charge (Power Systems):**
- Regular **maintenance of 33KV line equipment** and **analysis of breakdowns, performing preventive and predictive maintenance**.
- **Analysis of daily power consumption** for Cold Rolling Mill.
- **Managed** a team of **6+** members in general shift for different erection and commissioning activities.
- **Internal Quality Auditor for ISO 9001:2015 and IATF 16949:2016**, involved in Energy Management System documentation and Energy saving projects.
- Worked as a **Project Manager and commissioning engineer** for 33 KV Switch Board and Transformer installation for 20 HI Mill and Bright Annealing Line.

May 2017 - July 2017
Indian Institute of Technology, Delhi
Supervisor : Dr. Debanjan Bhowmik
**Summer Intern (GIPEDI Program)**
**Project Details:** **Micromagnetic simulation** of Skyrmion and Bloch wall motion Control system using OOMMF and **Theoretical implementation of ANN in MATLAB**

## KEYWORDS

Machine Learning | Data Science | Statistics | Applied Mathematics

## RESEARCH INTEREST

- AutoML and Fairness Module of Machine Learning
- Theory of Machine Learning and Deep Learning
- Prediction of Maintenance activities, manufacturing process control using Machine Learning tools and Techniques
- Denoising and classification algorithms for image processing

## ACHIEVEMENTS, HONOURS AND AWARDS

- **"Best Graduate Engineer Trainee"** of GET Batch 2018 at Jindal Stainless Limited
- Selected for **INSPIRE Scholarship Program** (2014)
- Awarded **Schneider Electric Scholarship** (2015-2018)

## PROFESSIONAL AND ACADEMIC TALKS

- **01 July 2021**, group talk on **"Visualization of Google Play Store App Data"**, CMI, India.
- **01 July 2021**, group talk on **"Efficient Algorithms for Finding Strong RRQR Factorization"**, CMI, India.
- **29 May 2021**, talk on **"Learning Machines to Machine Learning"** organised by SAI Cell NIT Durgapur, India.
- **27 Dec 2020**, professional talk at **NCQC 2020** (National Convention on Quality Concepts), **Topic:"Lean Quality Circle Project on Energy Optimization Through The Development of Energy Monitoring System'**, India.
- **19 June 2020**, professional talk at **CII Energy Efficiency Circle competition, 2020** in the category of **"Best Energy Efficient Organisation"**, CII, India.

## POSITION OF RESPONSIBILITY

Jan 2021 - Present
Chennai Mathematical Institute
India

Placement Representative

**Monitored 46 students** participating - **bridging** the gap between placement cell and students. Procured **4** new companies and **collaborated** with 15+ cores to ensure smooth placement process

July 2017 - May 2018
SPIC MACAY NIT Durgapur Chapter
India

General Secretary

**Organizing** cultural events on behalf of SPIC MACAY at NIT Campus. **Coordinating** with different verticals (Eminent Artists, Publicity, Events etc.) in the team. Organised the biggest classical cultural fest Virasat at NIT Durgapur in 2018.

## EXTRA CURRICULAR ACTIVITIES

Trained in Indian Classical music | Playing Piano | Art and Photography | Designing Posters | Athletics Enthusiast | Trekking and Solo Travelling | Writing Blogs and Research Oriented Articles

## REFERENCES

1. **Dr. Madhavan Mukund**, Director, Chennai Mathematical Institute. Email id - madhavan@cmi.ac.in
2. **Dr. B Srivathsan**, Associate Professor, Chennai Mathematical Institute. Email id - sri@cmi.ac.in
3. **Dr. Nirmal Kumar Roy**, Professor, National Institute of Technology, Durgapur. Email id - nirmalkumar.roy@ee.nitdgp.ac.in

## LIST OF PUBLICATIONS

- S.Sarkar, A.Ghosh, S.S Ghosh **Design of IMC & IMC Derived PID Controller for Interleaved Boost Converter**, IEEE Region 10 International Conference (TENCON 2020), Osaka (Japan), 16-19 Nov, 2020. We new Internal Model Control Architecture and Internal Model Control Derived PID Architecture for Interleaved Boost Converter and compared it with existing architectures in MATLAB/SIMULINK environment.
- S.Sarkar, S.S Ghosh **"Comparison of Different Types of Internal Controllers for Boost Converter"**, IEEE International Conference on Power Electronics, Smart Grid, and Renewable Energy (PESGRE 2020), Kochi (India), 2-4 Jan, 2020. We proposed two new Internal Model Control Architectures and compared it with existing architectures for a Boost Converter in MATLAB/SIMULINK environment.
- S.Sarkar, S.S.Ghosh, **"Comparison of Advanced Analog Controllers for a DC DC Boost Converter"**, 2020 IEEE 9th Power India International Conference (PIICON 2020), Sonipat (India), 28 Feb – 1 Mar, 2020. We have compared the results of different controllers on Boost Converter using MATLAB/SIMULINK environment.
- S.Sarkar, A.Ghosh, S.S.Ghosh, **"Study of Cardiorespiratory and Sweat Monitoring Wearable Architecture for Coal Mine Workers"**, IEEE Region 10 International Conference (TENCON 2020), Osaka (Japan), 16-19 Nov, 2020. We developed an integrated cardiorespiratory sweat monitoring and body movement tracking wearable architecture for mine workers and performed extensive experiments in an operational underground mine of Coal India Limited.
- S.Sarkar, S.S.Ghosh, **"Traditional IMC & IMC Based PID Controller Design for Tri-State Boost Converter"**, 2020 IEEE 9th Power India International Conference (PIICON 2020), Sonipat (India), 28 Feb – 1 Mar, 2020.The converter's performance is not improved aggressively in overshoot and settling time for traditionally developed single and dual-mode Type III controller-based Tri-state boost converter. So, IMC is introduced, and we simulated the system is in MATLAB/SIMULINK environment. The performance of the system has improved by a considerable margin with excellent disturbance rejection criteria.