

DEBMALYA PRAMANIK

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• in <https://www.linkedin.com/in/dPramanik> • <https://github.com/ZenithClown> • Lab • HackerRank •
• <https://stackoverflow.com/users/6623589/> • Kaggle • PluralSight • ResearchGate • Personal Website •

ANTICIPATING an engaging working environment where I can devote my knowledge and expertise, that will facilitate operating costs, improving speed and accuracy of a system. I have 7+ years of experience in the field of model development, optimization, visualizations, hyper-parameter tuning, and end-to-end machine learning architecture and building scalable and robust solutions.

—WORK EXPERIENCE—

Pidilite Industries Ltd. | Manager Data Scientist

June, 2023 – present

- **Project Management:** Driving *in-house digital projects* to enhance *supply chain experience with forward forecasts based on norms*, market outlooks and commodity price forecasts.
- **Analytics Strategy:** *Cost, route, time and share of business optimizations* using Linear Programming, Advanced AI and Genetic Algorithms.
- **Vendor Management:** Identify, evaluate and cost negotiations with vendors for monitoring SLAs and management of on-/off-site vendor resources.

Key Achievements : (I) A centralized dashboard tracking *performance of key raw and packaging commodity import price* with a month-on-month outlook and forward forecast, pro-actively helping in price negotiation with vendors. (II) Proactively *worked with external vendors for price forecast* of two key raw materials, achieving *an average model accuracy of 97.3% for 12 weeks of forward forecast*.

Reliance Jio Platforms Ltd. | Data Analyst

October, 2016 – May, 2023

May, 2021 • Promoted as **Manager**
Apr, 2020 • Promoted as **Deputy Manager**
Jan, 2019 • Transferred to **Navi Mumbai, Maharashtra (India)**, Reporting to **Brijesh Shah (Asst. Vice President)**
Oct, 2016 • Joined as **Asst. Manager**, at **Kolkata, West Bengal (India)**, Reporting to **Sourav Raj (Deputy Manager)**

- Built an Unsupervised Learning Algorithm using *Self Organization Maps (SOM or KSOFM)*, with a REST API back-end end (using *flask*) to **Predict User Movement** and **Mitigate Coverage Issue** by placing one or multiple ODSCs to improve per-user SINR.
- Design and mathematical modeling of a *Recurrent Neural Network Model (LSTM)* is extensively studied for replacing **Digital Pre-Distortion (DPD)** for **Linearization of Power Amplifier (PA)** to achieve Linear Characteristics of PA.
- An algorithm is devised for **Pro-Active Load Balancing** by *Estimation and Detection* of over-loaded cells based on TA, Delta and Neighbour Cells Measurement Parameters.
- Calculation of **Path Loss** and estimation of cellular network coverage. For this, an area is selected and divided into grids of $20m^2$, and a neural network model is used to calculate coverage grid-by-grid.

Key Achievements : (I) Closely worked with Network Planning Team, to Design and Automate Line of Sight Feasibility Module which *drastically reduced manual field interventions, and estimation of up-front costs*. (II) Achieved *an improvement of 1.3 to 1.9 dB on using SOM based Coverage Issue optimization*. (III) A *ACPR -45 dBC is attained* as per 3GPP standard specification with a mathematical LSTM model for DPD.

—RESEARCH & PUBLICATIONS—

Reliable Estimation of Dissipation Factor of In-service Power Transformer

Debmalya Pramanik, Arijit Baral

2022 IEEE 2nd Mysore Sub Section International Conference (MysuruCon), Mysuru, India, 2022 MysuruCon 2022
(pp. 1-6, doi: 10.1109/MysuruCon55714.2022.9972517) [↗](#)

Technical Reviewer : Step-Up for Leadership in Enterprise Data Science and Artificial Intelligence with Big Data : Illustrations with R & Python (hard copy available from Amazon, eBook is available on Kindle) [↗](#)

Authored by, Shitalkumar R. Sukhdev

Designing a Finger Based Heart Rate Monitoring System and Creating a Service Application for Data Transfer and Visualization using LABView Simulation Toolkit [↗](#)

Bachelor's Thesis (2015-16)

Neotia Institute of Technology Management and Science Diamond Harbor, West Bengal (India)

Project Partners : Jishnu Bhattacharyya [↗](#), Mainak Ghosh, Priti Kumari

Layer wise Image Segmentation of Skin OCT using Random Walks [↗](#)

15th June - 14th July, 2015

Indian Institute of Technology (IIT) Kharagpur, West Bengal (India)

Project Mentor : Dr. Debodoot Sheet [↗](#) (Asst. Prof. Dept. of Electrical Engineering, IIT Kharagpur)

Others

- Inverter Design Methodology and Efficiency of Solar PV Systems [↗](#)
- Series and Parallel Combination of PV Modules [↗](#)

—SKILLS—

Core Skills in Data Science & Analytics

- Python (pandas, NumPy, Scikit-Learn, SciPy)
- Statistics Analysis and Data Interpretation
- Machine Learning Algorithms – Regression, Clustering, PCA, K-Means, KNN, Decision Trees, Random Forest, XGBoost
- Neural Networks – Primitive Networks (MP Neuron, Hebb's Network, Perceptron), Back Propagation Algorithms; and Deep Neural Network - Design and Modeling (using Keras with TensorFlow); RL with Self Organizing Maps (SOM)
- Optimization Methodologies – Linear Programming (or Simplex Algorithm), Single or Multi-Variable Optimizations, Multi-Objective Optimization Techniques
- Specialized Methodologies like Genetic Algorithms (GA), Multi-Objective Genetic Algorithm, Particle Swarm Optimization (PSO), Ant-Colony Optimization (ACO), Gradient Descent
- Databases : Apache Hive; MongoDB (*basic*); SQL (MySQL, Google Big-Query, Postgre-SQL (PSQL))
- Data Visualization Tools: Tableau, PowerBI
- Machine Learning Frameworks: TensorFlow (v2.0+) with Keras (backend), PyTorch
- Automation Tools: CI/CD Pipelines, GIT
- **Data Engineering Skills:** (*basics*) MLOPs, DVC, ML Model Deployment and Monitoring

Cloud Technologies and Modern AI Tools

- Amazon Web Services (AWS): Amazon Sagemaker, Amazon GenAI Tools
- Google Cloud Platform (GCP): Google Colaboratory, Google Big Query, BigQuery ML
- Azure: Azure ML/AI, Azure Data Insights, Azure Data Factory

Electrical and Computer Science Engineering

- Web Frameworks for building REST API using Flask.
- Virtualization of Application as Service using Docker.
- Hadoop and Big Data for Handling Large Data and Running Analysis.
- MatLAB & Simulink (Mathematics, Control System & Image Processing Toolbox).
- Mathematical Modelling of Control Systems.
- Simulation Software: MultiSIM, PSIM.
- Power Market - DAM, RTM, GDAM, GTAM, etc. and Scheduling of Power in NLDC/IEX. Demand forecasting, MCP/MCV forecasting.
- Power Transformers (*basics*) - insulation and condition based monitoring techniques.

—EDUCATION DETAILS—

(3 Yr.) M. Tech. in Power Electronics and Electrical Drives

2018 – 2021

Indian Institute of Technology (IIT) Dhanbad, Jharkhand (India)

Final Year Project: “*Estimation of Dielectric Dissipation Factor of Power Transformer using Return Voltage Method*” under guidance of Dr. Arijit Baral (later the study was also published in IEEE).

B. Tech in Electrical and Electronics Engineering

2012 – 2016

Neotia Institute of Technology Management & Science Diamond Harbor, West Bengal (India)

- Held the position as **President** for the *social activities club Ajantrik*, and organized events like cloth distribution, language day celebration and blood donation campaign.

- Joined as a **Member** of *Kolkata Turning Lens Society (KTLPS)* - a photographic club for like-minded individuals.

ISC (Science)

2010 – 2012

Welland Gouldsmith School Kolkata, West Bengal (India)

ICSE (Science)

2008 – 2010

Welland Gouldsmith School Kolkata, West Bengal (India)

—CERTIFICATIONS, CONFERENCE & WORK-SHOPS—

Fundamentals of Machine Learning [↗](#)

University of Alberta, Albretha ML Institute | coursera

Advanced Data Science Specializations

IBM | coursera

- Fundamentals of Salable Data Science [↗](#)
- Adv. Machine Learning and Signal Processing [↗](#)

MatLAB and Simulink

MathWorks, MatLAB Academy

- MatLAB Fundamentals [↗](#)
- Machine Learning with MatLAB [↗](#)
- Introduction to Statistical Methods [↗](#)
- Deep Learning with MatLAB [↗](#)

Conference & Workshops

2020 Research and Technical Challenges in Energy and Power Systems (RTCEPS)

Narula Institute of Technology

2020 Control Applications of Renewable Energy Systems - Recent Trends and Future Aspects (CARESRTFA)

Invertis University

Open-Source Contributions

2024 Publish and maintain Open-Source Codes (documentations) [↗](#)

GitHub

September, 2021 Weather Ambassador Collaborator with Visual Crossing to build Python API Wrapper [↗](#)

Visual Crossing

March, 2021 In Top 6% Contribution for the Month in Stack Overflow [↗](#)

Stack Exchange

2021 [MIT License] Building AI-ML Algorithm from Scratch: decompose [↗](#)

GitHub