Debmalya Pramanik

• (+91) 79800-92850 • Gmail • dPramanik • GitHub • PluralSight •
• ResearchGate Publications • 6623589 • Kaggle-Profile •

Anticipating a Job Opportunity in the Field of Machine Learning and Deep Learning, wherein I can build and develop Business Logic that will not only facilitate operating costs, improving cost speed and accuracy of a system and enhance customer-experience quality, but will also provide evolution of knowledge and identity as a person.

—Work Experience—

Reliance Industries Ltd. | Data Analyst

October 2016 — *present*

Navi Mumbai, Maharashtra (India), Reporting to Brijesh Shah (Asst. Vice President)

- Building an Unsupervised Learning Algorithm using *Self Organization Maps* (SOM or KSOFM) to **Predict User Movement** and Mitigate Coverage Issue by placing one or multiple ODSCs to improve per-user SINR.
- Designing a *Recurrent Neural Network Model* for replacing **Digital Pre-Distortion (DPD) for Linearization of Power Amplifier (PA)** to achieve Linear Characteristics of PA, and minimizing the inherent 400-500 msec. delay present in DPD.
- 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.
  - Unhealthy Cells were identified by comparing the throughput of a cell based on all the devices latched, at a given period of time, with the actual or desired throughput.
  - Neighbour Information is fetched to find the sector which is not overloaded where the devices can be off-loaded.
  - Based on the current parameter settings between the unhealthy site and the unloaded neighbour – parameters like A1, A2, A5-T1 and A5-T2 is calculated.
- Building an algorithm for establishing **backhaul line-of-sight feasibility** between eNode-B (i.e. cells or towers, signal sending end) and ODSC (i.e. outdoor small cells, signal receiving end).
  - AMSL (Above Mean Sea Level) Values between the starting location and ending location is obtained from the Open-Source SRTM Database, and HOP-Length is incorporated into the Elevation Heights, to minimize obstacle interruptions.
  - Fresnel Radius between the two points is calculated.
  - Based on the above two parameters, feasibility is calculated between the originating site and its' nearest three neighbours (i.e. the Customer Demand Point).
  - The Nearest Neighbour is calculated from another module.

Key Achievements : 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.

—Research & Publications—

Designing a Finger Based Heart Rate Monitoring System and Creating a Service Application for Data Transfer and Visualization using LABView Simulation Toolkit *Final Year Project*

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

Took as a part of Final Year Project under the guidance of Dr. Pulak Pattanayak (Asst. Prof. Dept. of Electrical and Electronics Engineering, NITMAS, and H.O.D. of Physics, NITMAS). A brief working summary and the responsibilities of the project is as follows:

- Building a hardware using photodiode and infrared sensor which can detect the heart rate of a person – the sensor is carefully placed in a person's finger from where the heart rate is to be monitored.
- Getting the output of the Heart Rate from the hardware and displaying the pulse in CRO.

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)

Took as a part of Summer Internship under the guidance of Dr. Debdoot Sheet (Asst. Prof. Dept. of Electrical Engineering, IITK). The project was to Build a Simulation Code to Detect the Layers of Skin (dermis) from an OCT Image using MatLAB (Image Processing Library).

Others

- Inverter Design Methodology and Efficiency of Solar PV Systems
- Series and Parallel Combination of PV Modules

—Skills—

Core Skills in Data Science & Analytic

- Python (pandas, NumPy, Scikit-Learn)
- Statistics Analysis and Data Interpretation
- Machine Learning Algorithms – Regression, Clustering, PCA, K-Means, KNN
- Neural Networks – Primitive Networks (MP Neuron, Hebb's Network, Perceptron), Back Propagation Algorithms
- Deep Neural Network Designing in Python – like Keras with Tensorflow Background
- Building Models from Scratch – like 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 (MOGA), Particle Swarm Optimization (PSO), Ant-Colony Optimization (ACO)
- SQL (MySQL, Google Big-Query, Postgre-SQL (PSQL), Google Big-Query); Apache Hive
- Data Visualization Tools: Tableau

Electrical Circuit Design, Analysis & Simulation

- MatLAB & Simulink (Mathematics, Control System & Image Processing Toolbox)
- Mathematical Modelling of Control Systems
- MultiSIM
- Verilog (using Xilinx ISE 8.1i & Icarus Verilog)

—Education Details—

(3 Yr. Executive) M. Tech. in Power Electronics and Electrical Drives 2018 –2021
Indian Institute of Technology (IIT) Dhanbad, Jharkhand (India)

B. Tech in Electrical and Electronics Engineering 2012 –2016
Neotia Institute of Technology Management & Science Diamond Harbor, West Bengal (India)

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—

Reinforcement Learning Specializations University of Alberta, Albreta ML Institute

Advanced Data Science Specializations IBM

Conference & Workshops

2020 **Energy and Power System (RTCEPS 2020)** Narula Institute of Technology

2020 **Control Applications in Renewable Energy Systems** Invertis University