MILLEND ROY

Interested in Applied ML/RL/DL Research in Energy/Electronics Systems

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 MillendRoy

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EXPERIENCE

Microsoft Research (MSR) Lab India, Bengaluru —
(MAR 2021 - Present)
- *SCAI Research Fellow at Technology & Empowerment (TEM) RG, Project:*
  - *Decision Management Framework for Smart Grid Utility*
  - *Anomaly detection in Electric Vehicle Battery systems.*
- *Research Intern at Technology for Emerging Markets (TEM) RG,* Project: Energy Consumption Modeling for an Electric Vehicle

Indian Institute of Technology (IIT), Dhanbad — *UGStudent Researcher*
(NOV 2020 - MAR 2021)
Project: Reinforcement learning based islanding condition detection and analyzing chances of cyber attacks.

Hurrey Tech Ventures Private Limited, Mumbai — *Data Science Intern*
(APR 2020 - AUG 2020)
Project: Personalized learning root-cause identification systems

Indian Institute of Technology (IIT), Delhi — *Summer Research Intern*
(MAY 2019 - JUL 2019)
Project: Real-time PMU based Islanding condition detection.

PROJECTS

Autonomous Self-Driving Car Simulation   **(FEB 2020 - APR 2020)**
- Graphics creation using Kivy modules in Python.
- Deep Q-Learning reinforcement techniques used with specific reward policies where the taxi (3 sensors) has a to and fro journey.

Seq2Seq Architecture based DL Chatbot   **(JAN 2020 - FEB 2020)**
- Trained on Movie-lens dataset having conversations between different people by building a Seq2Seq neural architecture.
- Dropout regularization is used to remove any kind of overfitting and the losses are optimized using Adam optimizer.

EDUCATION

- ❖ **Indian Institute of Technology (ISM),** Dhanbad
  Bachelor of Technology in Electrical Engineering
  JULY 2017 - MAY 2020   **CGPA – 9.51/10**

- ❖ **Hem Sheela Model School,** Durgapur
  12th - APRIL 2016 - APRIL 2017 - **92.8%**
  10th - APRIL 2014 - APRIL 2015 - **CGPA-10/10**

COURSES

- Data-Science and Machine Learning Topics:
  - Machine Learning by Andrew NG
  - Deep Learning.Ai Specialization Courses
  - Practical Reinforcement Learning
- Mathematics
  - Inferential Statistics

PUBLICATIONS

Accepted/Published:
- "**Reliable Energy Consumption Modeling for an Electric Vehicle Fleet**" ACM SIGCAS Computing and Sustainable Societies, (COMPASS'22), Seattle, USA.
- "**A Deep Learning Framework for Enhancing Maritime Coastal Security**", International Conference for Emerging Technologies (INCET'21), IEEE Xplore.
- "**Renewable Energy and Demand Forecasting in an integrated Smart Gri**d", International Conference on Innovations in Energy Management and Renewable Resources (IEMRE'21), IEEE Xplore.
- "**Islanding condition, its causes, mode of origination and detection**", India's Science Academies, Authorcafe.

In review:
- "**A Data Driven Fault Detection Approach with an Ensemble Classifier based Smart Meter in Modern Distribution System**" Elsevier's Journal: Sustainable Energy, Grids and Networks.
- "**Machine Learning based adaptive Fault Diagnosis with Real time Hosting Capacity Augmentation in an Active Distribution Network**" - accept on subject to revision in Electric Power Systems Research Journal.

Ongoing:
- "**EnCortex: A Decision Management Framework for SmartGrid Utility**" - to be submitted to NSDI'23

SKILLS

- **Languages**: Python, C, C++, SQL (Google BigQuery)
- **Software Packages:** Matlab & Simulink, Tableau.
- **Libraries:** Numpy, Pandas, Scikit-learn, Pytorch, Keras, Matplotlib, OpenCV, Beautifulsoup, StableBaselines, Ray.

ACHIEVEMENTS

- Masters in Physics Offer at **UiT, Norway** for 2021.
- **Silver Medal Holder** of EE'21 batch of IIT ISM Dhanbad.
- **ASEAN India Hackathon'21** Global Finalist.
- Winner of the Grand Finale of **Smart India Hackathon'20**.
- **Samsung Innovation Awards** Finalists.
- Selected for the **SURGE'20** at IIT Kanpur, **SPARK'19** at IIT Roorkee and **SRFP'19** at IIT Delhi.
- Selected for a 3 month's internship at **TU Kaiserslautern, Germany** for the summers 2020.

EXTRA-CURRICULARS

- Completed 5th year (Sr. Diploma) with distinction in the subject of Painting under Ideas of Art and Craft forum.
- Completed 3rd year (Sangeet Bhushan Final) with first division in the subject of Vocal Classical.