SANSKAR TEWATIA

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EDUCATION

University of Southern California, Los Angeles, USA **Aug 2022-May 2024**

Master of Science in Electrical and Computer Engineering (Machine Learning & Data Science Track)

GPA: 3.72/4 • Relevant Courses: Computational Deep Learning, Cloud Computing, Machine Learning-1.

Shiv Nadar University, Delhi NCR, India **Jul 2018-May 2022**

Bachelor of Technology in Electronic and Communication Engineering

GPA: 9.05/10 • High Distinction – 2nd Rank in Electrical Department.

Relevant Courses : Applied ML, Applied Deep Learning, ML through R, Computing Principles, Data Structures.

SKILLS

- Python(Microsoft Technology Associate Batch), C++, C, R, NodeJS, MATLAB, Octave, Machine Learning Frameworks: Keras, TensorFlow, PyTorch, SKLearn, Computer Vision, Deep Neural Networks – CNN, RNN, LSTM, Deep Reinforcement Learning Google Cloud, SQL, Data Analysis, REST, System-Verilog, MS Office, WordPress Editor.

EXPERIENCE

Machine Learning Researcher, Prof. Sukumar Mishra, IIT Delhi **Jan 2022-May 2022**

- Developed 1D CNN based Power Quality Disturbance (PQD) Classifier model for AC Phase-to-Neutral voltage received from the Electricity Board (220v - 50Hz based model).
- Created own dataset of AC Voltage measurements incorporating up to 3 different PQDs simultaneously.
- Executed software on a Raspberry Pi 4, measuring, digitizing, & classifying real-time voltage recorded via Arduino UNO.

Software Developer Intern, Orangewood Labs, SF **May 2021-Jul 2021**

- Devised end-to-end NLP based Intent Recognition model to add support for Voice Control of movement & action of a Multi-Axis Collaborative-Bot.
- Generated specific purpose dataset of sample commands, interfaced various APIs, deployed model to Google Cloud Platform after development own Flask API of project.
- Collaborated with members of software development team and personnel from mechanical departments.

Teaching Assistant, Shiv Nadar University **Jan 2021-May 2021**

- Demonstrated and taught Hardware Design Language Code to a class of 146 students in sections of 30, documented attendance and checked lab reports.
- Designed digital circuits, wrote equivalent System Verilog code for lab sessions of 'Digital Electronics' Course.

Machine Learning Researcher, Dr. S S Gill (QMUL England), Manmeet Singh (IITM & UT Austin) **Dec 2020-Jan 2021**

- Worked on the Black Friday Sales Analysis problem and achieved a global rank of 113 out of 22,700 participants, manuscript currently under review for a Global Journal.
- Observed and analysed sales patterns from previous years' data to find out patterns of purchase behaviour, utilized classical & modern ML algorithms to make regression predictions for future such sales.

Machine Learning Intern, Foxmula, India **Jul 2020-Aug 2020**

- Studied new ML technologies to train a model for Credit Card Fraudulent Detection (Classification problem).

ACADEMIC PROJECTS

- Monsoon 2021 Major Project - Smart Traffic Light Control exploiting **Reinforcement Learning**, forged a SUMO network of 2-lane and 4-lane crossroads, trained deep Q networks to **minimize average traffic queue length by 60%**.
- Spring 2021 ML through R Project - **Future Forecasting** of Weather based on previously collected data.
- Spring 2021 Applied ML Project – Hospital **Length of Stay Prediction** utilizing various machine learning algorithms.
- Monsoon 2021 Applied DL Project - Handwritten digit recognition on **MNIST** dataset (**Convolutional Neural Network**)
- **SDSS Quasar Detector** - Classification of Astronomical objects from latest Data release 16 from Skyservers's dataset.
- Yearlong Research Project - Concocted and simulated a low cost, high voltage(~1KV) **electric fencing system** that can run off a 12V DC battery using nMOSFET, NE555 timer, diodes, and a transformer, to contain wild animals in an enclosure.
- Monsoon 2019 Robotics Course – Designing, coding, & fabricating an Arduino based dual motor, obstacle avoiding**, line follower** robot.

LEADERSHIP AND INVOLVEMENT

- Led the IEEE SNU Student Branch as The Secretary 2021-2022, organized multiple events, webinars, and workshops.
- Member of various student societies such as AI Club, Robotics Club, Gaming Society, Cubing Club, initiated the Stand-Up Comedy Club, Transport Committee, Hostel Representative.