

Sharan Sundar

ML Engineer/ Research Assistant



www.sharansundar.com

EXPERIENCE

○ Under Graduate Research Assistant

Solarillion Foundation

06/2017 – Present

Chennai

- Developed and deployed a Machine Learning model in real-time for predicting the occupancy of a movie using its booking history in collaboration with one of the top three multiplex chains in India.
- Developed a Generic Deep Framework for Cross-Domain Univariate and Multivariate Time Series Forecast including S&P500 stocks.

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📍 Chennai, India

PUBLICATIONS

○ Convolutional Long Short-Term Memory Neural Networks for Hierarchical Species Prediction

Conference and Labs of the Evaluation Forum (CLEF 2018) • Avignon, France — Sep, 2018

Deep Learning to model the species distribution given their spatial environmental features along with the species taxonomy under GeoLifeCLEF2018 Lab.

○ DeepTrace: Generic Deep Framework for Cross-Domain Univariate and Multivariate Time Series Forecast (Under Review)

Association for the Advancement of Artificial Intelligence (AAAI-19) • Hawaii, USA — Feb, 2019

A generic framework of model architectures that could work across all classes of time series datasets to eliminate the feature engineering task without compromising on the accuracy of state-of-the-art models and algorithms.

○ A Machine-Learning approach to Occupancy Forecasting using Feature Tuning (Under Review)

SIAM International Conference on Data Mining (SDM19) • Alberta, Canada — May, 2019

Dataset construction, Feature Engineering and Feature Tuning to model crowd behaviour for occupancy forecasting on historical booking data (2013 - 2017) of a popular Indian multiplex.

EDUCATION

○ Computer Science Engineering

Anna University (SSN College of Engineering)

05/2015 – Present

7.9

○ Higher Secondary Education-CBSE

Chettinad Vidyashram, Chennai

06/2000 – 04/2015

94.80%

EVENTS

○ Smart India Hackathon 2018 (ISRO), Gujarat Finalists

○ Smart City Hackathon 2017, Rajkot Finalists

○ Ideathon (Paytm) 2016, Delhi Top 100 in India

ORGANISATIONS

○ Association of Computer Engineers (ACE), SSN President

08/2018 – Present

- Responsible for the activities of the Department of Computer Science Engineering.
- Member of the core behind SSN's Technical Fest - InvenTe3.0

○ Teach-A-School

Teacher Volunteer

10/2016-04/2017

Delivered Basic Math and Science concepts to middle school children (6th Grade, Lady Sivaswami Iyer Girls School).



SKILLS

Programming

Advanced: Python, C++

Intermediate: C, Java

Beginner: HTML/CSS, SQL, Bash

Hardware & Software:

Arduino, Linux, Android Studio, Kibana, Latex

Tools & Frameworks:

Git, Keras, Tensorflow, Scikit-learn, Numpy, Pandas

AREAS OF INTEREST

Deep Learning | Reinforcement Learning | Natural Language Processing

MOOCs

Stanford University | Coursera
Machine Learning

USF | Fast.ai
Deep Learning

ACHIEVEMENTS

Scholastic

- 1st Prize National Level Vedic Mathematics, 2010.
- 1st Prize State Level Vedic Mathematics, 2011.

Non-Scholastic

- Recipient of the Rajya Purashkar Award (Honourable Governor's Award)-Scouts and Guides, 2013.
- 4th Place- District level Chess, 2010.

EXTRAS



NOTABLE PROJECTS

○ Road_not_taken

Pytorch, Kivy, Pyshp

An application that reads road networks as shapefiles and generates the minimum spanning tree using conventional and agent-based (Reinforcement Learning) algorithms.

Datasets: Google Earth, ISRO's Geoportal

○ Occupancy_Prediction

Keras, Pandas

Branched-LSTM Deep models and ExtraTrees models with engineered and tuned features to predict occupancy per screen per show for a popular multiplex in real time.

Dataset: Booking data (Transactional) (2013-2017)

○ ML for Speed Control of DC Motor

Arduino, 12V DC Motor, IR Sensor

Developed a polynomial regression algorithm to stabilize the error between the user and sense speed under no load and loaded conditions for a 12 V DC motor.

CURRENT WORK

○ Text Summarization (Abstractive)

Tensorflow, Nltk

Deep NLP model that incorporates efficient knowledge representation to create short and coherent versions of a longer document while maintaining contextual density.

Datasets: DUC-2003,04

○ Automatic Short Answer Grading System

Tensorflow, Tkinter

Deep model with unsupervised learning to evaluate and grade short answers by deriving key measures of the correctness of a student response from its semantic similarity with the correct answer.

Datasets: Semeval, SAS-Hewlett

○ CLEF 2019

Expanding dataset and deriving a new metric for collaboration with the organizers of CLEF 2019, Switzerland.

Future work of the already published paper aimed at achieving higher accuracy and optimisation.

