Sharan Sundar

ML Engineer/ Research Assistant

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Chennai, India

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.

PUBLICATIONS

Convolutional Long Short-Term Memory Neural Networks for Hierarchical Species
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 *2018 – Present*

Responsible for Department of Computer Science Engineering Activities and part of the core organizing SSN's Technical Fest Invente3.0 (September 21-22,2018).

Teach-A-School
Teacher Volunteer *10/2016-04/2017*

Delivered Basic Math and Science concepts designed in line with their school curriculum for 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 Governer's Award),2013-Scouts and Guides.
- 4th Place- District level Chess,2010.

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

Deployed 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 documents 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.