Karan Kumar
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EDUCATION

Indian Institute of Technology, Gandhinagar
August 2018 - Present
Master of Technology, Computer Science and Engineering
Current CPI: 7.63

Jss Academy of Technical Education, Noida
July 2014 - June 2018
Bachelor of Technology, Computer Science and Engineering
Overall Percentage: 68.50

PUBLICATION

Solar Energy Forecasting using Machine Learning (CODS-COMAD acceptance rate 20%) *Oct 2019*
The aim of this paper was to accurately forecast the solar produce (**without using the physical parameters of the solar site**) y_{t+K}, K timestamps in the future given historical solar produce $\{y_1, y_2, ..., y_t\}$ and historical, forecasted meteorological data.

PROJECTS

Image Forgery Detection using Deep Learning *Jan 2019 - May 2019*
The project aims at, Given an image, to predict whether the image has been altered or not. There was a total of 1500 altered and non-altered images. Altered images were also containing mask corresponding to the modified part in the image. I got 91% accuracy on the test set by combinedly using VGG16 pre-trained architecture and CNN custom architecture.

Solar Energy Forecasting *(Research Project under Prof. Nipun Batra at IIT Gandhinagar)*
The goal of the research is to accurately forecast the solar produce, k timestamps ahead in the future, given historical solar produce and forecasted meteorological data. (Data collection has been done from IIT Gandhinagar campus) Most of the existing solar forecasting models require physical information about the solar site, such as the azimuth, zenith angle, etc. (It is non-trivial to collect the physical parameters of any solar site.)

Multiclass Classification of WhatsApp Messages *(Research Project under Prof. Mayank Singh)*
Using Natural Language Processing and Machine Learning, classify WhatsApp messages into one of the fine-grained categories i.e., Spam, Advertisement, Offensive, and Neutral. We collected 223,403 messages from 281 WhatsApp public groups over four months (19 Jan 2019 19 May 2019). Messages in the dataset were annotated manually by creating a web application.

Vehicle Part Failure Prediction (Dataset: IDA Challenge 2016) *Aug 2018 - Nov 2018*
The problem aims at using machine learning, predict whether a specific component of the Air Pressure System of a vehicle faces imminent failure or not. It was a binary class classification problem. The dataset was containing a very high number of NAN values. I got 92% accuracy on the test set using the Naive Bayes algorithm.

TECHNICAL STRENGTHS

Language, Tools, Library	C, Python, Core Java, MYSQL, Matplotlib, Seaborn, Scikit-learn, Networkx.
Machine Learning	Supervised and Unsupervised Learning, Bagging, Boosting, Ensembling etc.
Deep Learning	ANN, CNN, RNN, MLP, LSTM, GRU, Keras, Tensorflow.
Data Analysis	Data Pre-Processing, Data Visualization, Statistical Modeling, etc.
Academic Subjects	Data Structure, Algorithms, DBMS, Operating System, Computer Networks.
Others	Solved 250+ problems on GeeksforGeeks and Hackerearth.
Blog	https:machinelearningbyiitian.blogspot.com

ACHIEVEMENTS

- Successfully implemented all the machine learning algorithms such as SVM, Linear Regression, Naive Bayes, Decision Tree, Random Forest, etc from scratch using python. **Code Repository: www.github.com/kkaran0908**

- Secured 98.75 percentile in gate 2018 among 1.07 lakh students.

- I secured 4th position in the entire district in the 12th board exams held in March 2013.

- In 12th standard, got a scholarship of 80000 per year for pursuing higher education in pure science by Department of Science and Technology (Government of India) for being in the top 1 percent in Board Examination.

- Most viewed writer on quora in Artificial Intelligence and Machine Learning.

WORK AS A TEACHING ASSISTANT

- **Introduction to Computing (taught by Prof. Krishna Prasad Miyapuram)** *Autumn 2018*
  Class size of 170, managed other TAs, evaluation of answer sheets, and tutorials.

- **Discrete Mathematics (taught by Prof. Neeldhara Misra)** *Spring 2019*
  Class size of 36, managed other TAs, evaluation of answer sheets, and tutorials.

- **Introduction to Computing (taught by Prof. Krishna Prasad Miyapuram)** *Autumn 2019*
  Class size of 170, managed other TAs, evaluation of answer sheets, and tutorials.

PERSONAL TRAITS

- Highly motivated and eager to learn new things.

- Strong motivational and leadership skills.

- Ability to work as an individual as well as in group.