



Sudeep Joel Maguluri

Software Developer

I am a Software Developer and an aspiring researcher with a vision of building technology which can serve mankind and make human lives richer and better.

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TECHNICAL (IT) SKILLS

C

Java

Python

Matlab

Javascript

React JS

Node JS

Mongo DB

SQL

Tensorflow

Keras

Open cv

Docker

WORK EXPERIENCE

Software Developer

Phoenix Tech Solutions

02/2020 - 2020

Remote

Phoenix Tech is a leading software development company based in South Africa, building web applications that are stunning, robust, secure.

Achievements/Tasks

- Worked as a Sole developer and driven development from a sketch to a polished product on an Ecommerce application called Salve which would help users to locate salons in Jeffrey Bay area and to book saloon appointments.
- Developed User facing features such as User Dashboards, Visualizations, service booking pages, user management portals etc. following well-known React.js workflows (such as Redux) and ensured that components and the overall application are robust, easy to maintain and Aesthetically Impressive.
- Developed most of the server-side logic in Node JS and Implemented features using Firebase Cloud functions which responds to triggerers such as HTTP requests and changes made to database, integrated these functions with the front-end application, maintained and ensured the high performance of them.
- Followed Agile methodology throughout the development of the application and acted as scrum master for the product, prepared stories for the interns in the later stages of the application, worked as project lead and involved in training and monitoring the Interns to get the stories completed within the deadline.
- Implemented Jenkin Pipeline for Continuous Integration and deployment of new features, which enable the interns to deploy their code to the production environment after Quality assessment and approval thereby improving the pace of development and integration new features.
- Contributed to the project planning, management and system design for the application and documented the information about the project in all the phases of development.

Contact: Gert Mans

WORK EXPERIENCE

Full Stack Developer

Wisedoc Inc.

12/2019 - 03/2020

Achievements/Tasks

- Developed and implemented responsible and reusable user interface components using React concepts for the Wisedoc editor pages.
- Translated designs and wireframes into high-quality code.
- Involved in discussions with the development team for user interface ideas and applications.
- Worked extensively on PdfMake package and DocX package to generate the pdf and word files from the slate JS nodes.
- Designed Schema for Wisedoc IEEE template and worked on exporting Journal fields to pdf file.

Hyderabad

Teaching Assistant

The Hacking School 

04/2019 - 08/2019

Achievements/Tasks

- Taught, Monitored and assisted Bootcampers in personal projects, full web development in Javascript, Networking basics, implementation of Data structures concepts in Python and in numerous problem-solving tasks.
- Developed company projects such as Bootcamp Tracker a platform which keeps track of Bootcampers performance and used by the administration department to manage account details and other details such as Instructor and Cohort.
- Prepared challenging assignments on a wide range of concepts in javascript, React JS and Node JS and also programming challenges which included tasks building User Interfaces, creating REST APIs and Mongoose Schema for given scenario etc.

Hyderabad

EDUCATION

Bachelor's of Technology in Computer Science

Sreyas Institute of Engineering and technology

08/2014 - 05/2018

Courses

- Data Structures
- Formal Language and Automata Theory
- Design and Analysis of Algorithms
- Principles of Programming Languages

Higher Secondary Education

FIITJEE Junior College

2012 - 2014

Courses

- Maths, Physics and Chemistry

88%

PERSONAL PROJECTS

Credit card Fraud Detection (03/2020 - 04/2020) [↗](#)

- Dataset consisted of credit card transaction labelled as either fraudulent or non-fraudulent and is highly imbalanced with 99.83 % samples belonging to non-fraudulent class while only .17% are fraudulent samples.
- Built a Simple Neural network using Keras to perform binary classification on the dataset after performing scaling and necessary data cleaning tasks and yielded 99 percent accuracy and precision less than 60 % indicating model's low performance on classifying fraudulent samples..
- Handled the problem of class imbalance using various techniques such as SMOTE variants (ADA SYN and Borderline SMOTE), Conditional Variational Autoencoder and Generative Adversarial Networks.
- Generative modelling using CVAE and GAN yielded best results and on reimplementing the binary classifier by adding the newly generated samples to original dataset yielded a recall score of recall is 98 %, F1 score of 93% which is one of the best recorded metrics in the Kaggle submissions.

Income Qualification of Latin American Families (05/2020 - 05/2020) [↗](#)

- Solved the problem of Qualifying the right people for the financial aid by applying Machine learning techniques, dataset consisted of high dimensional data of nearly 200 columns about the families of the Latin Americans and their financial status.
- Visualized the dataset for the class imbalances, collinearity and performed deep outlier analysis to identify outliers, used IQR technique for handling the outliers and handled discrepancies such as mismatches of poverty levels, replacement of missing values, removal of insignificant examples from the dataset etc.
- Performed one-hot encoding, scaling of numerical columns, handling skewness and dimensionality reduction using PCA. Later implemented KNN and Random Forest to find the income level, KNN model yielded a test accuracy of 91 % which was similar to Random Forest Implementation
- Tried to Improve the performance of the Random Forest Classifier by Tuning Hyperparameters such as Criterion, n_estimators, max_depth using Grid Search CV and obtained train accuracy of 100% and test accuracy of 97% with configuration (n_estimators=30, criterion='entropy', max_depth=3), using OOB Samples and K-fold Cross-validation and accuracies obtained are 93% and 97.5% respectively.

Flagging Twitter Hate Speech using Logistic Regression, Recurrent Neural Networks (05/2020 - 06/2020) [↗](#)

- Worked on the Twitter tweets dataset to identify hate speech (racist or sexist tweets), since it is a biggest platform where anybody and everybody can have their views heard, there is scope for some of these voices to have hate and negativity so we Implemented NLP and ML techniques to identify such tweets.
- Cleaned the tweets by using regular expressions to remove URL's and user handles, Used Tweet Tokenizer from NLTK, tokenize the tweets into individual terms, implemented text cleaning and manipulation by performing operations such as removal of stop words, redundant terms like 'amp', 'rt', etc., removed '#' from the hashtags in tweet while retaining the term.
- Implemented TF-IDF vectorizer from sk-learn package and Instantiated with maximum vocab size of 5000 to fit to training and test set, implemented Grid Search for various hyperparameter on Logistic Regression Including class-weight parameter because of imbalance of classes in dataset and best estimator had obtained f1 score of 74% and recall metric of 91% and 95% test accuracy.
- Implemented Recurrent Neural Network using Keras with Embedding layer of dimension 500, followed by Simple RNN and SoftMax layer which yielded best results 99% test accuracy, f1-score 97% and recall metric was 98%.

Next Word Prediction using CBOW and LSTM on Reuters Corpus (07/2020 - 08/2020)

- Processed the Reuters Corpus contains 10,788 news documents and 1.3 million words and built a Prediction system which takes sentences of length 10 tokens and predicts the next word.
- Documents are split into text and train sets based on the categorization specified in the corpus, operations such as removal of the special characters such as '@', '#', '\n' etc. is done, conversion of words to lowercase, used regex to replace the numbers and some common tokens.
- Distinct words are extracted from the processed text and dictionary of words is maintained so that it can be passed to deep learning model as inputs, random sentences consisting of 11 tokens are extracted from the processed text and converted into sequence of index in the dictionary and the target variable which is the 11th token in sentence is converted into one hot encoded form.
- CBOW technique was implemented on the transformed dataset to predict the next word although the performance was very low and was around 76% the model was able to predict the next word for frequently occurring group of tokens, to Improve the performance of the task we Implemented LSTM with SoftMax as an activation and trained the model for 1200 epochs and obtained the test accuracy of 82 %.

PERSONAL PROJECTS

Classification of Zebra Sub Species using Convolutional Neural Networks and VGG NET (07/2020 - 08/2020)

- Distinguishing Zebra subspecies is difficult because of the fingerprinting and texture of stripes, these subtle differences makes it hard for human eye to differentiate the subspecies, we attempted to Implement an Image classification to classify the two subspecies namely plains zebras and the mountain zebras.
- We researched the characteristics that differentiate these subspecies and found that belly and ears are prominent feature for classification, we extracted nearly 2000 images using Flickr API and scraped the images, later performed necessary Image transformation tasks such as Rotation, Zoom, sheer and resizing etc. using the Image Data generator of Keras package.
- Typical CNN with dropouts and maxpooling layer was Implemented on grey scaled images and we obtained low accuracy of 53 % , when depth of the Network was increased by adding 2 more convolutional layers and dense layers accuracy Improved to 67%.
- We further used Transfer Learning to Improve the performance on the classification task we added fully connected layers on top of VGG net and trained the model and achieved a maximum accuracy of 85%.

Debugger.ME (01/2019 - 03/2019)

- Developed a Web Application which is a bug bounty platform which connects SME's to the security researchers across the globe to meet their security need.
- Coded Backend tasks such as User Authentication, Database validation , form validation, multer file upload and hashing passwords with bcryptJS.
- Designed and programmed few React JS components and integrated it with backend.
- Worked on the Deployment to Heroku cloud platform and handled load balancing by setting using Nginx.

Flight Delay Prediction (12/2018 - 03/2019)

- Built a Desktop application in python which keeps track of Flights Schedules, Departure and arrival Timings and other information related to the airports.
- Performed Data cleaning, transformation using Data Analysis packages in python after obtaining historic details of American domestic flights from Kaggle which consisted of details on delay statistics of flights.
- Built a Logistic regression model for American Domestic Flights to perform classification and to predict whether a flight will be delayed by a duration of 20 minutes or not.

Plagiarism Detector (07/2018 - 10/2018)

- Designed an android application to check the plagiarism in the Project abstracts and assignments submitted by the students it thereby helped professors to check plagiarism in documents submitted by students.
- Implemented a modified version of the Rabin-Karp pattern matching algorithm to compare the suspicious document against the content of various web pages by transforming the text into a suitable format, operations such as Text capitalization, Stop word removal etc. are performed for both source and suspicious content.
- Plagiarism detector was selected as one of the best projects in Department of Computer Science for the year 2014-18.

RESEARCH PUBLICATIONS

Book Chapter

Chapter 13 Parkinson's Disease Detection using voice measurements

Author(s)

Dr.Rohit Raja, Dr. Raj Kumar Patra

June 2020

Artificial Intelligence in 2D/3D image Diagnostics

implementation of scikit-learns XGBoost to accurately detect the presence of Parkinson's disease in an individual in less time and cost as there is a lot of open source data of the previous observations of many people having Parkinson's disease.

Book Chapter

Chapter 15 New Algorithms and Technologies

Author(s)

Dr.Rohit Raja, Corhan Sengiz

August 2020

Data Mining Technologies using Machine Learning Algorithms

we propose an innovative explanation analysis and data order method for mining techniques and the release of information. The work audit puts the centre around the hot and promising zones of information mining.

RESEARCH PUBLICATIONS

Research Paper

Object Recognition Using Deep Learning

Author(s)

Dr. Rohit Raja

September 2020

International journal of analytical and experimental modal analysis (IJAEMA)

This paper is survey on In-depth learning methods for best in class object recognition frameworks

CERTIFICATION

Data Science With Python (03/2020 - 04/2020) [↗](#)

Machine Learning (05/2020 - 06/2020) [↗](#)

Advance Deep Learning and Computer Vision
(07/2020 - 07/2020) [↗](#)

Natural Language Processing and Speech
Recognition

Deep Learning with Tensorflow and keras

RESEARCH INTERESTS

Reinforcement Learning

Natural language Processing

Computer Vision

Health Informatics

Machine Learning

Image Processing

Algorithms

Deep Learning

Data Mining

Information Retrieval