RAAJESH LAGUDUVA RAMESHBABU – SENIOR DATA SCIENTIST

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PROFESSIONAL SUMMARY:

Dynamic and motivated professional, passionate about cutting-edge technology and solving real-world problems.
A Self-taught techie with expertise knowledge on multi-dimensional skill sets.
Expert in Machine Learning, Good Understanding in advanced deep neural networks.

PROFESSIONAL EXPERIENCE: 5Years and 2Months.

EDUCATIONAL CREDENTIALS:

B.E ECE : **86.3 %**	Standard XII : **91.33 %**	SSLC : **91.60 %**

CONTINUING EDUCATION:

ML Nanodegree – Udacity : 07/2018	ML – Coursera : 12/2017	Python Internals – TCS Internal Certification : 08/2017

"EXTERNAL INTERNSHIP PROGRAM" at Inkers Technology   [12/2019]

PROJECTS: https://github.com/raajeshlr/EIP3Phase2Repository
Transfer Learning: Pre-trained ResNet18 Model to cifar-10 and ran **Grad-Cam** for seeing model activations, found misclassifies.
RNN's and LSTM's for Text Generation: Created generative model for text, character-by-character using LSTM recurrent neural networks in Python with Keras.

"EXTENSIVE VISION FOR AI" at the School of A.I.   [05/2019 – present]

PROJECTS: https://github.com/raajeshlr/EVARepository
GAN: Implemented Cycle GAN for creating a face-aging model in Keras on UTK Face dataset.
Landmarks Detection: Implemented DLIB Face Detector for determining key points on a face.
Super Convergence: Used LR Finder, Slanted OneCycleLR, Cutout-Cropping data augmentations, and super-converged the model in limited epochs.
Object Detection: Implemented YOLOv3 for object detection.

WORK EXPERIENCE:

Senior Data Scientist, Infosys Ltd   [12/2018 – present]
Proof of Concepts:
Infosys Intelligent ChatBot – Screen Capture
Developed user-interactive Microsoft Azure ChatBot, which understands the user screen and provides solution.

- It has Question Answers (QnA) and Language understanding (Luis) services enabled.
- It uses One-Shot Learning for screen comparison and extracts text-using tesseract NLP.
- It uses spacy to understand the patterns and uses MongoDB to fetch the results from the collections.
- It provides the option of invoking RPA, which has deployed on UiPath, to the users.
- It connects with SNOW and so it raises an incident when it is not able to provide solution.
- ChatBot has built on node.js and all other functionalities built in python and integrated with flask API's
- Python functionalities been pushed to the Azure as a Docker image created as an App Service and ChatBot source code has also been pushed using Zip Deploy.
- We also applied for the patent and it is on progress.

Infosys Intelligent Assistant
Developed tool to automate the support projects. It increases productivity and reduces the human intervention needed for classifying and assigning the tickets. I have worked on various internal projects and automated their ticket triaging process.

- It has four algorithms such as Logistic regression, Random Forests, SVC, and Naïve Bayes, these algorithms used to train the history of tickets, and then to classify the new tickets, which we pull from the ISTM tool like Service-Now.
- It has other features like providing the related tickets using text rank algorithm and it shows the related KB articles submitted in Service-Now.
- It also provides the contributed words for classifying the tickets using the comparison of weightage of words.
- It also has the ability to invoke the RPA Scripts when our customer wants to automate the flow.

Signature Classification using CNN

- Dataset prepared from the scratch, labelled it, classified the images using the CNN model.
- Manually written the python code to crop the part of the image considering the coordinates.

POS tagger using Spacy
- Used trained language model and enabled the parsers, taggers, named entity recognizers and used displacy method.
- Written custom python code for manually adding the custom taggers to the corpus result dictionary.

Automation of Front End UI Development using LSTM and CNN
Input: Picture of a design mockup. **Output:** - Predicted HTML Code for design Mockup.
Motive: Increase prototyping speed, lower the barrier for building UI Software.
Architecture:
Input Layer HTML Sequence → Embedding → LSTM → Time Distributed (Dense) → Result1
Input Layer Convoluted → Flatten → Dense → Repeat Vector → Result2
Concatenate Result1 and Result2 and feed to LSTM and Dense it to the required output.
Results:
Achieved the result of 75% accuracy on our custom dataset.

IT Analyst, Tata Consultancy Services   [12/2014 – 11/2018]
Projects:
Home Credit Default Risk
- Goal is to predict loan defaulters using Logistic Regression, Random Forest, and LightGBM model.
- EDA performed, preprocessing done, tried feature engineering and evaluated with ROC AUC.

Finding Donors for Charity
- Goal is to predict individuals makes money >$50,000 in order to appeal donor for a non-profit organization.
- Performed EDA, pre-processing including skewed continuous feature transformation, normalization, encoding.
- Performed Grid Search CV and fine-tuned essential parameters for GBM, which achieved a prediction accuracy of 87%.

Densely Connected Convolutional Networks - DENSENET
CIFAR10 Dataset: Dense-Net Paper https://arxiv.org/pdf/1608.06993.pdf
- Created Dense-Net architecture with three convolution blocks and two Transition blocks.
- Achieved the max validation accuracy of 88% after fine-tuning and implementing OneCycleLR.

Creating Customer Segments
- Developed Unsupervised Learning, clustering technique, Demonstrated feature scaling, dimensionality reduction and feature transformation using PCA and identity customer segments hidden in the data.
- Developed K-Means clustering algorithm and GMM and measured performance with Silhouette score.

Convolutional Neural Networks using Fashion MNIST Data – No Obsolete Methods
- Goal is to achieve 99.2% Val Accuracy with less than 20,000 Hyper-parameters (No Hidden layers should be used).
- Developed the model with a high-level framework Keras, with selection of Tensorflow for backend.
- The model achieved 99.2% Validation accuracy in 11 Epochs.

Restaurant Reviews Management System
- Goa is to classify reviews, performed cleaning, stemming, created corpus and bag of words with 2000 features.
- Implemented Gaussian Naïve Bayes Classifier, and trained and tested the model, evaluated using f1_score.

FUNTIONAL AND TECHNICAL SKILLS
- Proficient in ML and DL with applications includes NLP, CNN, RNN, LSTM, and all other basic ML Techniques.
- Strong coding ability and experienced use of modern source control (GIT).
- Numpy, Scipy, Scikit-learn, Pandas, Tensorflow, Keras.
- Python, C, C++, Java, UNIX, SQL, Basics of PL/SQL.

WORK HIGHLIGHTS:
- Providing solutions to our clients on datasets and analytics using machine-learning models.
- Analyzing datasets to provide strategic direction to clients.
- Building predictive models using Python.
- Regular implementation of predictive modelling, regression models and other statistical techniques.

PERSONAL DOSSIER:

DOB : 17.02.93	Interests : Deep Learning GAN's CNN's	Languages: Sourashtra, English, Tamil, RW Hindi, Learning Kannada.

ACHIEVEMENTS:
- Awarded 'Best Performer of the year' in the team of 50+ associates, Recognized for proactive involvement.
- Service and commitment award from TCS in 2016, Continuously "A Band" for three years.
- Presented parallel parking robot and image processing surveillance system papers during college.
- Completed Hindi Examinations until Praveshika.
- Secured 'Certificate A' Examination under the authority of, Ministry of defense, Government of India.