Rahul Kumar

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Experience

BOTSUPPLY,COPENHANGEN | CHIEF AI SCIENTIST
SEP 2017 – PRESENT

Building NLP engines which support Danish, Italian and other Norwegian languages using CNN and RNN architectures. I am exploring various Reinforcement Learning use cases for real-time learning in chatbots.

My current areas of R&D focus include NLP, Quantum Computing and Deep Learning.

HAPPIEST MINDS, INDIA | DATA SCIENTIST
SEP 2016 – SEP 2017

Being part of Happiest Minds, I explored various Deep Learning algorithms for prediction and recommendation modeling. Was responsible for building conversational cognitive bot for human level interaction.

ACCENTURE, INDIA | SOFTWARE ENGINEER
OCT 2014 – SEP 2016

Being part of Accenture's R&D group, I explored and implemented machine learning algorithms for various use cases - NLP, Feature extraction, Classification, Predictive model, etc. I have also exploited biometric traits and algorithms to deliver value through effective human identity recognition.

Publications

Rohit Khokher, R.C. Singh, Rahul Kumar | **Palmprint Recognition Using Geometrical and Texture Properties** |
2nd International Conference on Research in Science, Engineering and Technology (ICRSET '14), DUBAI (UAE), pp: 54-58, ISBN: 978-93-82242-81-9,
http://dx.doi.org/10.15242/IIE.E0314582.

Projects

Pachamama (NLU engine)

Link : https://goo.gl/f7CG6S

Developed a deep NLU engine, which supports Danish, Italian and English languages. This engine act as the brain behind the chatbots to resolve the user queries. The architecture of Pachamama is flexible, scalable and builds language model on the fly.

N-D CLASSIFIER

Developed a multi-class classifier using deep learning algorithm (Convolutional Neural Network). Implemented CNN for feature engineering on text data to classify in multiples classes with 93.2% of accuracy.

Q/A Engine

Developed NLP components using sklearn, NLTK and Stanford Parser, which is used in the Q/A service engine to convert any statement into question form and further help to predict relevant solutions for the same using TFIDF and K-means clustering algorithm.

Skills & Abilities

PROGRAMMING LANGUAGES

- Python 2.7, Java, C++, MATLAB

ML FRAMEWORKs

- Tensorflow, Keras, PyTorch

Education

SHARDA UNIVERSITY | B.TECH | 2010-2014

- Major: Computer Science and Engineering
- CGPA: 7.7

DELHI PUBLIC SCHOOL | UNDERGRAD | 2008-2010

- Major: Science

Coursework

- Machine Learning by Andrew Ng
- CS231n: Convolutional Neural Networks for Visual Recognition
- Learning how to learn: A powerful mental tools to help you master tough subjects.

Hobbies

Travelling | Swimming | Reading Blogs & Articles

Few more projects:

Danish word2vec model

July '17 - Sep '17
Build a word2vec model of 312,134 words on Danish language. Used Tensorboard to make the visualization of it.
Try it out: http://nlp.motherbot.co:6006

Conversational chatbot framework

Sep '16 - Aug '17

Developed a stateful chatbot framework which is able to perform a goal oriented conversation with the users. It is implemented on the Random Access Navigation (RAN) based approach. Also implemented a generative modelling in the dialog manager module.

ALexBot

April '16 - May '16
Integrated Amazon Alexa with RaspberryPi 2 and developed a software trigger to automate the voice command initiation process. Looking further to automate it with Gesture recognition or Face recognition.

Webpage_RNN

Jan '16 - May '16
Developed a generative model which can develop website pages on the trained website styles. Used Recurrent Neural Network with LSTM to train model. *(WIP)

Data Sanitizer

March '16

Developed a python utility to clean the data by removing the special unicode characters from the csv file and deployed it as a web service. Working on its user interface in AngularJS.

Hand Free

May '16 - July '16

Developed an Android app which performs facial expression recognition and triggers some basic activities such as calling, playing music, etc.

MKA

July '14 - August '14

Worked in a team of 5 to create a health care application in Java and C++. Working to make the application more intelligent using Computer Vision and Machine Learning concepts. This application was featured on Prabhat Khabar.

Multimodal Biometric Security System

August '13 - June '14

Worked under the guidance of Assis. Prof. Kiran Ravulakollu. Developed a Biometric based security system using human Footprints and Palmprints. Wrote the GUI in Java and backend in Matlab.

Palmprint Recognition System

May '13 - July '13

Developed an algorithm to extract principal line components from the palmprint images using Morphological Operations and optimized the efficiency of the system by ~13 ms using Radon Tranformation.