Ravi Teja Pothamsetty

ravi.pothamsetty@rutgers.edu | +17189741871 | 5 Dennis St, New Brunswick, NJ -08901

SUMMARY: Experienced Researcher, with two plus years of experience in building large scale Machine/Deep Learning models for NLP/Computer vision systems. Designed and developed image search engine for art images, Relation extraction and Question-Answering system for chat bots. Skilled in Python, TensorFlow, Java, and C. Strong engineering professional with bachelor's from Indian Institute of Technology, Kharagpur and currently pursuing master's in computer science with focus on Machine learning.

EDUCATION

Master of Science in Computer Science at **Rutgers University** New Brunswick, NJ, CGPA: 3.83/4.0 — Sep 2017 - May 2019

Bachelor and Master of Engineering in Electronics at **Indian Institute of Technology** Kharagpur, India. — Jul 2010 - May 2015

PROFESSIONAL EXPERIENCE

As a R&D Engineer at Artrendex. — New Brunswick, NJ

Art image search engine using Deep Metric Learning — Jun 2018 - Present

- Developed a VGG-16 CNN model with attention and trained on art images from Instagram images using N-pair loss.

As a R&D Engineer at Ipsoft. — Bengaluru, India

Relation Extraction system for chatbots — Nov 2016 - Aug 2017

- Due to scarce availability of training data, distant supervision is adapted in the pipeline. Weakly labeled training data is created by annotating Wikipedia articles. Dexter tool is used to ground entities and freebase to find the relation between those entities.
- We then filter out noisy patterns/sentences by estimating entropy of a patterns across all relations.
- Lucene is used to index the sentences and corresponding entity pair, relation.
- Designed and implemented a CNN model for this task and achieved an accuracy of 81%.

Question-Answering System — Nov 2016 - Aug 2017

- Developed a bi-directional attention flow network which answers a query from a given context paragraph.
- Model is trained on Stanford Question answering dataset.

Fine-Grained Entity Type Detection — Nov 2016 - Aug 2017

- Implemented an Bidirectional LSTM with attention mechanism model to predict the type of an entity.

As a Senior-Software Engineer at ARC Document Solutions — Kolkata, India

Analyzing a review/tweet and extracting the opinion of the user — July 2015 - Aug 2016

- Reduced the number of features using LSA. Here, features are n-grams.
- Trained a Naive Bayes model on the features and achieved a test accuracy of 86%.
- Improved this baseline by building a Neural Network model using word2vec embeddings to 96%.

Research Projects

Recommendation System with common knowledge about products — Feb 2018 - present

- Developed a novel approach to recommend products by learning product and user representations on Knowledge graph which include common knowledge about the product.
- Developed an open source tool to augment any Knowledge graph using Freebase/Wikipedia.
- Augmenting datasets using this technique has produced state-of-the art results.

Multi-Task Learning in NLP For Learning Sentence representations — Mar 2018 - present

- Designed a deep neural network to train on multiple NLP tasks simultaneously.
- Evaluated the trained model on 12 different tasks which include STS, MR, SICK.

Course Projects

Fast open-domain question-answering system (NLP) — Jan 2018 - May 2018

- Identify all entities in a question and extract information about that entities from Wikipedia.
- From this information we extract answer using bi-directional attention flow model. The bi-directional attention model is trained on squad dataset. Dexter tool is used as Entity Linker.

Product Rating Estimate from Tweets (Algorithms) — Sep 2017 - Dec 2017

- Using the keywords related to a product/brand we fetch all the tweets relevant to these key words from the Twitter API. From these tweets we estimate the product/brand sentiment by averaging the score of all tweets.
- Sentiment score for each tweet is predicted by an LSTM model trained on labelled tweets data.

Libraries

- TensorFlow, Pytorch
- CoreNLP, NLTK
- Lucene, SPARQL
- NumPy,
- Scikit-learn, Pandas
- Gensim, Flask, Spacy
- Matplotlib, SciPy
- Hadoop, HDFS
- MapReduce, Spark

Programming Languages

- Python
- JAVA
- C++, C

Software

- MATLAB/Octave
- PyCharm
- Intellij