Satyajit Kamble

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Education

Oregon State University – *Oregon, OR* Sept 2019 – Present
Masters in Computer Science – Starts in mid-September

University of Mumbai – *Mumbai, India* Jul 2015 – May 2019
Bachelors of Technology, Majored in Computer Engineering - 7.31/10

Experience & Research

Directed Research Collaboration Jun 2018 – Aug 2018
Data61, Commonwealth Scientific and Industrial Research Organization (CSIRO)

- Collaborated with an NLP researcher on **hate-speech detection from code-mixed data** on social media. Extracted 255k+ domain-specific tweets using REST API and created an algorithm to pre-process the data.
- Trained domain-specific word embeddings to capture semantic subtleties. Designed and implemented **CNN-1d, LSTMs and Bi-LSTMs**. Evaluated their performance against state-of-the-art statistical classifiers.
- Results showed a **12% improvement in F-score** on a benchmark dataset. This research project resulted in a paper which got selected at **ICON 2018**, a national level **A-star NLP conference in India.**

Undergraduate Research Assistant Aug 2017 – Oct 2017
KJSCE, University of Mumbai

- **Led a team of 5** and built a **QnA system** for understanding textual reasoning. Developed the **seq2seq encoder-decoder architecture** to learn context vectors from training data. Implemented a **greedy-search decoding module.**
- Improved performance by incorporating the **global attention mechanism** to allow for refined context discovery.

Projects

Skip-gram Model for Word2Vec Jan 2018

- **Led a team of 3** to explore the application of the **CBOW and the Skip-gram model.**
- Scraped data from the web and **built the skip-gram model** (in tensorflow) to find correlations between movies and TV series along with their characters. Also, **implemented noise contrastive loss**.

LSTM Stream Sequence Counter Dec 2017

- A toy project which used **LSTM cells** to calculate the number of 1's in an auto-generated binary element dataset.

Neural Image Dual-Style Transfer Oct 2017

- Built a model to transfer the style of 2 images into a third base image. Used the **VGG-16 model** for transfer learning.
- **Developed a novel approach** to combine associated style loss and content loss. Also, incorporated **regularization.**

Sentiment Analysis in Game Reviews Jul 2017

- Created a model for analyzing sentiments of game reviews using **statistical classifiers** - Random Forests and SVMs. Extracted and utilized several feature vectors such as word n-grams, character n-grams, negation words etc.
- Improved task accuracy to 92% by using **ensemble deep learning models** accompanied with **GloVe embeddings.**

Neural Networks for Prediction & Detection Oct 2016 – Mar 2017

- Employed NNs for tasks such as: (1) Created a model for **tracing trends and predicting stock prices** using Gated Recurrent Units (**GRUs**) and Convolutional Neural Networks (2) **Led a team of 4** for breast tumor detection and classification using **deep-CNNs** (3) Built a toy project which **analyzed facial landmarks** to keep track of blinking.

Skills

- **Programming:** Python, C++, C, Bash, MATLAB
- **Frameworks:** Tensorflow, Pytorch, Keras, Scikit-Learn
- **Databases:** SQL, Oracle SQL 11g, PostgresSQL, MySQL
- **Analytics & Tools:** Numpy, Pandas, Matplotlib, NLTK, Word2Vec, BS4, Google Analytics, Tableau, RapidMiner
- **Web:** Javascript, NodeJs, AngularJs, HTML/CSS/SASS
- **Technologies:** Linux, LaTeX, Git, REST API

Interests

• Travelling • Filmmaking • Trekking • Politics • Movie Freak • Gaming