Abhinav Singh

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EDUCATION

The Johns Hopkins University, USA **2018-2020(expected)**
Master of Science, Computer Science
Courses: Machine Learning, Machine Translation, Natural Language Processing

National Institute of Technology Kurukshetra, India **2012- 2016**
Bachelor of Technology, Information Technology
Courses: Data Structures, Algorithms,Software Engineering

DeepLearn'17 summer school, Bilbao(link) **2017**
Attended a rigorous Deep Learning summer school taught by some of the finest professors in the domain.

TECHNICAL SKILLS

Frameworks and libraries: Tensorflow, Theano, Pytorch, nVidia CUDA,NumPy / SciPy, boost
Programming languages: experienced in: Python, C, C++ and familiarity with: Java, Matlab, R

WORK EXPERIENCE

Liv.ai (Acquired by Walmart)**,** India— *Research Software Engineer* **June 2016 - June 2018**

Worked on a variety of NLP problems, such as:

- Machine Translation: Built a neural machine translation system in Tensorflow based on seq2seq learning.
- Text To Speech :Developed a TTS system comprising of CNN, LSTM and Resnets, with Gaussian Mixture models for attention
- Gappi Transcription Chat App : Developed Neural Network to enables speech to text processing.
- Named Entity Recognition: Built NER system for intent classification (eg. Cab booking, Flight booking), using Conditional Random fields and stacked LSTMs.
- Character level Language Models :Built proprietary language models using stacked CNNs and LSTMs .
- Regularization using Generative Adversarial Networks:Utilised GANs for the purpose of regularization of our DNNs using adversarial perturbations.
- Tree LSTM: Leveraged meta-information present in semantic trees to create an LSTM as a semantic tree to construct a Language Model.

Indian Institute of Technology Delhi, India — *Summer research intern* **June 2015 - July 2015**

Conducted research in in frequent itemset mining with algorithms such as pincer search and Apriori Algorithms for analysing checkout carts of a major retailer in India.

Indian Institute of Technology Delhi, India — *Summer research intern* **June 2014 - July 2014**

Developed distributed programs capable of running on inhouse supercomputer for drug design. Developed modules for Weiner index and Molecular volume calculation for their drug development software suite "Sanjeevani".

ML PROJECTS

Paraphrase Detection(link)
Implemented an unorthodox CNN based model in tensorflow to recognise paraphrased sentences and detect duplicates.

PUBLICATIONS

Mobility and Energy Conscious Clustering Protocol for Wireless Networks, ICICT 2015[Publication][PDF]

LANGUAGES

English (Fluent), Hindi (Fluent)