

# Abhinav Singh

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## WORK EXPERIENCE

### Liv.ai, Bangalore — *Research Engineer*

June 2016 - PRESENT

I work on a variety of NLP problems, ranging from Language modelling to Neural Machine translation.

- Machine Translation: Built a neural machine translation system in Tensorflow based on seq2seq learning.
- Text To Speech : CNN, LSTM and Resnets, with Gaussian Mixture models for attention
- Gappi Transcription Chat App : responsible for the development of the deep neural networks comprising of CNNs, LSTMs and RNNs which enables speech to text processing.
- Named Entity Recognition: NER model for the purpose of intent classification of interaction with users (eg. Cab booking, Flight booking, etc). using Conditional Random fields and stacked lstms.
- Character based Neural Language Models :Used stacked CNNs and LSTMs along with a myriad of tweaks to build language models.
- Generative Adversarial Networks: I have 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 not as a standard linear chain but rather as nodes in leaves of the semantic tree to construct a Language Model.

### Indian Institute of Technology Delhi, India — *Summer research intern*

June 2015 - July 2015

Worked and researched in the field of Data Mining with Prof. B. Chandra in frequent itemset mining. Worked with Association Rule mining Algorithms such as pincer search and Apriori Algorithms to conduct data mining.

### Indian Institute of Technology Delhi, India — *Summer research intern*

June 2014 - July 2014

Worked at The Supercomputing Facility for Bioinformatics and Computational Biology on distributed programs capable of running on the inhouse supercomputer. Developed modules such as [Weiner index](#) and [Molecular volume calculator](#) for their drug development software suite "Sanjeevni".

### Siemens, Qatar — *Summer intern*

June 2013 - July 2013

Developed modules for their software for Building Automation Management systems for the New Doha International Airport (Qatar).

## ML PROJECTS & EDUCATION

### Paraphrase Detection ([link](#))

- I have helped Dr. Kevin Gimpel, TTIC in implementing an unorthodox CNN based model described in “Multi-Perspective Sentence Similarity Modeling with Convolutional Neural Networks” by Hua He, Kevin Gimpel, and Jimmy Lin.

### DeepLearn’17 summer school, Bilbao ([link](#))

- Selected for and attended a rigorous Deep Learning summer school and was taught by some of the finest professors in the domain.

## TESTS

GRE : 328/340

TOEFL : 118/120

## EDUCATION

National Institute of Technology Kurukshetra, India

*Bachelor of Technology(B.Tech), Information Technology*

GPA : 7.96/10

2012- 2016

## SOFTWARE ENGINEERING SKILLS

Software frameworks: Tensorflow, Theano, Pytorch, nVidia CUDA, NumPy / SciPy, boost

Programming languages: experienced in Python, C, C++, Java

## PUBLICATIONS

Mobility and Energy Conscious Clustering Protocol for Wireless Networks—*International Congress on Information and Communication Technology 2015 (ICICT 2015)* [[Publication](#)] [[PDF](#)]