

# Sudeep Raja Putta

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## Education

**Indian Institute of Technology Kharagpur**

*Bachelor of Technology (Hons.)*

CGPA : 8.88/10.00

Kharagpur, India

2012 - 2016

## Programming Skills and Familiar tools

**Languages** Python, C++, C

**Tools** Keras, Tensorflow, Theano, Caffe, Scikit-learn, Numpy, OpenCV

## Projects and Internships

**Human Activity Recognition in Temporally Untrimmed Videos**

**Bachelor Thesis Project**

May 2015-April 2016

**Guide: Dr.Partha Pratim Das**

- We use two neural networks trained separately to perform different sub tasks.
- Activity Detection Network ADN is a CNN + LSTM trained on untrimmed videos to detect activity segments.
- Activity Recognition Network(ARN) is a 2-stream Convolutional Neural Network + LSTM trained on trimmed videos to recognize activities.
- Given a video, ADN predicts the temporal extents of activities and ARN predicts the activity occurring in the extent.

**Text Recognition using Bidirectional Long Short Term Memory Neural Networks**

**Research Intern at CVIT lab at IIIT, Hyderabad**

May 2014-July 2014

**Guide: Dr.C.V. Jawahar**

- Using BLSTM neural networks we were able to recognize characters from Indian text documents.
- Methods of implementing FNNs, RNNs and LSTM networks on GPUs using NVIDIA CUDA were explored.

**Analysis of Clickbait articles**

**Social Computing Project**

July 2015-November 2015

- Using features extracted from clickbait article titles, we trained a classifier to recognize clickbait headlines.
- Using Markov models ,we generated clickbait headlines. LSTM neural networks were also trained to generate clickbait articles.
- Using Supervised LDA topic modelling, we were able to predict the popularity of new articles.

## **Ambulance Response Time Optimization**

### **Xerox Research Centre India Open 2015**

- Using the Facility Location problem as a model , we were able to assign Ambulance locations in a city based on the accident count in each area such that the response time of an ambulance in case of an emergency is minimized.
- Our solution is tolerant to traffic delays during different times of the day and is applicable to related problems in transportation and facility location.

## **Non Photo-realistic Rendering of Images as paintings**

### **Visual Communication Project and Microsoft Code.Fun.Do**

May 2014 and October 2015

- Developed algorithms to render photographs as impressionist era paintings for styles such as Pointillism, Cubism , Divisionism and Fauvism.
- Using the Neural Algorithm of Artistic Style paper, we were able to achieve better results. We were runners up in Microsoft Code.Fun.Do conducted at IIT Kharagpur for our phone app.

## **Tracking Idea Evolution in Discussion Forums**

### **Research Intern at IBM Research Labs, India**

#### **Cognitive Solutions Research Group**

May 2015-July 2015

- Algorithms for identifying the Ideas proposed in a forum and tracking the evolution of ideas in the form of a tree were developed.
- Using the Word vectors embeddings and Sentiment analysis, Idea clusters were formed using a Chinese Restaurant Process and Idea Trees were constructed to capture the idea's evolution over time.

## **Scholastic Achievements**

|  |      |
|--|------|
| <b>Xerox Research Centre India Open 2015</b>   | 2015 |
| My team of 3 won the Xerox Research Innovation Challenge at XRCI open 2015.            |      |
| <b>Microsoft Code.Fun.Do</b>   | 2015 |
| My team of 3 was campus runners up in Microsoft Code.Fun.Do                            |      |
| <b>Aditya Birla Scholarship 2012</b>   | 2012 |
| Figured among top <b>24</b> engineering students shortlisted from all over India.      |      |
| <b>IIT Joint Entrance Examination (IITJEE)</b>   | 2012 |
| All India Rank- <b>281</b> in <b>General</b> category among half a million candidates. |      |
| <b>All India Engineering/Architecture Entrance Examination (AIEEE)</b>                 | 2012 |
| All India Rank- <b>63</b> in <b>General</b> category among one million candidates.     |      |