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# ASHISH RANJAN

248 Amherst Rd, Cliffside Apt C3
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## EDUCATION

MS in Computer Science, ***University of Massachusetts Amherst,*** (Fall '17 –Spring'19)
**Current Coursework:** *Probabilistic Graphical Models, Algorithms for Data Science*
**Completed Coursework:** *Advanced Machine Learning, Natural Language Processing*
**GPA - 3.56/4**
B.Tech in Electrical Engineering, ***Indian Institute of Technology(IIT)- BHU, Varanasi, India*** (Fall '09 – Spring '13)
Coursework: Data Structure and Algorithms, Probability Theory, Calculus, Vector Algebra

## PATENTS & PUBLICATIONS

- **US 20160110849 A1- "Method and Apparatus for Storing, Processing and Reconstructing Full Resolution Image out of Sub Band Encoded Images."**

## WORK EXPERIENCE

**Samsung Research India, Bangalore, India** (Jun '13 – Jul '17)
***Lead Engineer Apr'17- Jul'17 | Sr. Software Engineer Apr'14- Mar'17 | Software Engineer Jun'13 – Mar'14***
**Advanced Technology Lab**
***Conv Neural Net* Model Design, Development and Optimization for Samsung BIXBY** (Jan'17 – Jul'17)
- Developed and optimized the core model components of Samsung Bixby for product launch of Galaxy S8.
- Designed and developed deep learning based text classification models using CNN for Galaxy S8 product launch.

***SC-LSTM* based Natural Language Generation IP** (Mar'16 – Dec'16)
- Developed the natural language generation IP using SC-LSTM for Smart Assistant.

**Context Based Inference Engine IP** (Jul'15 – Feb'16)
- Developed context-based inference engine which deduces the activities in a SMS/WhatsApp conversation (free-form natural language input) and analyses the user sentiment. This culminated into App release for Samsung India Market – 'JifiCal'.

**Knowledge Base Engine** (Mar'15 –Jun'15)
- Designed and developed the knowledge base engine based on causality of events.

**C-LAB Competition**
**Sluggishness detection in Smartphone** (Dec'14 – Feb'15)
- Conceived and implemented the proof of concept of sluggishness detection in smartphones using deep learning.

**Multimedia HWIP Team**
**Image Compression IP for Camera Sensor Data and Sensor to Display Pipeline** (Jan '14 – Aug'14)
- Designed and implemented Scalable HW IP to decode high resolution compressed Bayer images.
- Conceived and formally verified architectural improvements in design reducing the Gate Count by 4x.
- Worked on various Image Processing algorithms for storing and processing high resolution multimedia data.

**Image Compression IP for Display** (Jun '13 – Dec '13)
- Instrumental in algorithm optimization for a SPIHT based Image Encoder/Decoder in hardware.

## CURRENT PROJECTS

**GO Evidence Code Classification, Oracle Labs** (Jan'17 – Current)
- Building a classifier to identify what type of evidence to assign to a Gene Ontology (GO) annotation.

**IESL Lab, UMass Amherst, Guide: Professor Andrew McCallum** (Nov '17 – Jan'17)
- Improving Rowless Universal Schema Knowledge Base using Complex Embedding. [Report]

**COMPSCI – 585 Natural Language Processing Project** (Nov'17 – Dec'17)
- Character Identification on Multiparty Dialogues using Agglomerative Conv Neural Networks. [Report]

## TECHNICAL SKILLS

**Languages:** JAVA, Python
**Tools and Frameworks:** TensorFlow, Theano, Git, Agile, Pycharm, Eclipse, IntelliJ, MATLAB, Maven, Jupyter Notebook, XML, JSON

## EXTRA CIRRICULARS

- MS Social Chair for Spring'18
- Member of UMASS Official Hip Hop Crew