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ASHISH RANJAN

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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
<u>**Advanced Technology Lab**</u>
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.
<u>**C-LAB Competition**</u>
Sluggishness detection in Smartphone (Dec'14 – Feb'15)
- Conceived and implemented the proof of concept of sluggishness detection in smartphones using deep learning.
<u>**Multimedia HWIP Team**</u>
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] [GitHub]
COMPSCI – 585 Natural Language Processing Project (Nov'17 – Dec'17)
- Character Identification on Multiparty Dialogues using Agglomerative Conv Neural Networks. [Report] [GitHub]

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