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ASHISH RANJAN

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EDUCATION

MS in Computer Science, ***University of Massachusetts Amherst, Amherst, MA USA*** (Fall '17 –Spring'19)
Current Coursework (Fall'18): Information Retrieval, Reinforcement Learning
Completed Coursework: *Probabilistic Graphical Models, Algorithms for Data Science, Advanced Machine Learning, Natural Language Processing*
GPA - 3.73/4

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

Comcast Research Labs, Washington DC, USA (May'18-Aug'18)
Research Intern
- Developed an architecture for entity disambiguation.
- Conceived and implemented an algorithm for entity recommendation using Knowledge graphs.
- Presented the proof of concept of the above with use cases for Xfinity X1.

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

***CNN* 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.

***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 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 (Jun'13 – Aug'14)
- Designed and implemented Scalable HW IP to decode high resolution compressed Bayer images.
- Worked on various Image Processing algorithms for storing and processing high resolution multimedia data.

CURRENT PROJECTS

Set Membership, CIIR, Guide: Professor James Allan (Oct'18 – Present)
- Currently researching on new methods to do set expansion given a non- topical query.

GO Evidence Code Classification, Oracle Labs [Report] [GitHub] (Jan'17 – May'18)
- Designed a classifier to identify what type of evidence to assign to a Gene Ontology (GO) annotation.
- Developed Hierarchical Attention Model and TF-IDF model to create document embedding for abstracts.

IESL Lab, UMass Amherst, Guide: Professor Andrew McCallum [Report] [GitHub] (Nov '17 – Jan'17)
- Improving Rowless Universal Schema Knowledge Base using Complex Embedding.
- Designed and developed the shared LSTM architecture with complex embedding for relations and sentences.

TECHNICAL SKILLS

Languages: JAVA, Python
Tools and Frameworks: TensorFlow, Sci-Kit, Numpy, Scipy, Spark, Docker, Git, Agile, AWS, Theano

EXTRA CIRRICULARS

- MS Social Chair for Spring'18