Murali Raghu Babu Balusu

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INTERESTS **Machine Learning**, **Deep Learning** and their applications in areas like **Computer Vision** and **Natural Language Processing**.

EDUCATION

Georgia Institute of Technology May 2018 (Expected)
Master of Science in Computer Science, Specialization: Machine Learning **GPA: 4.0/4.0**
Courses: Machine Learning, Advanced Computer Vision, Computability and Algorithms, Vision and Language, Natural Language Processing, Web Search & Text Mining

Indian Institute of Technology (IIT), Guwahati June 2016
Bachelor of Technology, Computer Science and Engineering **GPA: 8.46/10**

EXPERIENCE

Software Development Engineer, **Amazon** May 2017 - July 2017
Amazon Web Services Deep Learning, *Seattle, USA*
Project: **Deep Learning Models for Text Summarization**

- Developed an Attentional, Recurrent Neural Network based hierarchical encoder-decoder model for both extractive and abstractive summarization.

Research Assistant Aug 2015 - Apr 2016
Department of Computer Science & Engineering, ***IIT Guwahati****, India*
Project: **Encoding constraints into Community Detection algorithms**

- Developed a constrained spectral community detection algorithm that tries to incorporate domain specific degree-of-belief constraints about the clustering structure of the network.

Research Internship May 2015 - Jul 2015
School of Electrical and Computer Engineering, ***Rowan University****, USA*
Project: **Initially Labeled Learning in Non-Stationary Environments**

- Developed an algorithm using an under-sampling approach combined with an ensemble approach to improve the model's performance in classification of non-stationary data.

SKILLS

Languages: C, C++, Python, Bash, Assembly, Prolog, HTML, PHP, SQL
Others: Matlab, R Studio, Git, MXNet, PyTorch, Keras, Tensorflow, NLTK, Stanford CoreNLP

PROJECTS

Overcoming Language Variation in POS Tagging using Social Attention: Ongoing
Working on building a novel attention-based neural network model that exploits the author's position in the social network to perform well on POS tagging and is more robust to social language variation.

Modeling Compositionality in Visual Question Answering (VQA): Ongoing
Exploring Relational and Dynamic Memory Networks to build VQA models that are more visually grounded by providing them an additional reasoning ability.

Text to Image Synthesis using GANs : Spring 2017
Investigated various models using generative adversarial networks GANs to generate a sequence of images based on the context extracted from a textual description.

Scene Recognition with Deep Learning: Nov 2016
Implemented AlexNet and VGG deep learning neural networks for the task of Instance Scene Recognition on the 15 class scene dataset. Achieved upto 90% accuracy.

Sentiment Analysis and Summarization of Online Reviews: Mar - Apr 2016
Built a model using machine learning to extract the key positive and negative sentiments pertaining to various aspects of the reviews and provide a brief summary to the users.

Hidden Markov model for Speech Recognition: Nov 2015
Built an isolated word recognition system using a Hidden Markov Model for each word and identifying the word based on the highest model likelihood.

TEACHING **Graduate Teaching Assistant for**: Computability and Algorithms in Fall 2017,
Natural Language Processing in Spring 2017 & Database Systems in Fall 2016 at **Georgia Tech**.