Shikha Agarwal

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EDUCATION

University of Massachusetts Amherst Expected Graduation May 2019
M.S. in Computer Science GPA: 3.8/4.0
Relevant Coursework: Machine Learning, Deep Learning, NLP, Probabilistic Graphical Models

Jadavpur University India May 2014
B.E. in Information Technology GPA: 9.15/10.0

PROFESSIONAL EXPERIENCE

Intern, Machine Learning R&D **Lexalytics, Inc.** Jun 2018 - Aug 2018

- Explored machine learning techniques, with a research-based NLP team at Lexalytics, to find an alternative approach to the tree based algorithm for sentiment analysis of a given product that does not work well with incorrect grammatical sentences (often present in datasets such as user reviews).
- Extracted similar keywords (in clusters) for a given product such that sentiments around these keywords would lead to the sentiment of the product. Received good feedback on improvements to the noisy cluster using cosine distance metric. The algorithm is now being evaluated for downstream tasks such as sentiment analysis.
- Successfully integrated company's first deep learning model, convolution neural network, using Tensorflow.

Software Developer **Gwynniebee Ind Pvt Ltd** Jul 2014 – Aug 2017

- Designed and built an automated bookkeeping tool to capture depreciation models for Accounting team using Hadoop. Led team of 2, analyzing and refining historical data, optimizing queries, streamlining error handling, communicating with Finance and BI team. Reduced weeks of manual work to few clicks.
- Improved memory consumption of API in internal search tool by switching from Trie data structure to real-time Distributed Search Engine(Elasticsearch). Designed, implemented and tested the system independently. Decreased memory consumption by 99% and reduced maintenance time.
- Owned critical business application, the sale of garments, including adding new features to the module as well as its maintenance. Streamlined the existing code, reducing customer complaints by 98%.

Intern, Software Engineer **Amazon** Jun 2013 – Jul 2013

- Implemented and tested a new model of Quality of Service(QoS) that captured metrics reflecting customer experienced quality of streamed videos. Modularized QoS from Playback that led to simple, bug free code design.
- Also, enhanced the module to use real-time Events Architecture that helped Customer Support team in rapid identification of issues faced by the customers. Language: Javascript

PROJECTS

Chan Zuckerberg Initiative Research: Entity recognition and linking Feb 2018 - Apr 2018

- Explored Bi-LSTM model, with Prof Andrew McCallum in the IESL lab, for entity recognition that performs better than baseline TaggerOne by ~3%.

Irony detection in english tweets Oct 2017 – Dec 2017

- Implemented Naive bayes, Logistic Regression and neural net model LSTM experimenting features like Word Embeddings, POS, and custom features use of emoticons, length of words. Best accuracy: 67.8%, f1-score: 64.5%

Detecting diabetic retinopathy in the eye using Transfer Learning Oct 2017 – Dec 2017

- Experimented with re-training of CNN(trained on ImageNet data) - VGG19 and Inception V3 via transfer learning approach (Platform: Tensorflow). Best accuracy: 74%, sensitivity: 77% from VGG19 model.

TECHNICAL SKILLS

Programming Languages: Java, Python, MySql, C/C++
Tools and Systems: TensorFlow, Pytorch, REST, Tomcat, Maven, Linux, Oozie, Elasticsearch, RabbitMQ, Git