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
Relevant Coursework: Data Structure, Design & analysis of Algorithm, Operating System, Image Processing

PROFESSIONAL EXPERIENCE

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

- Researching improvements to the Company's NLP platform, with emphasis on entity sentiment attribution and dilated convolutional networks.

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

- Designed and built an automated book keeping tool to capture depreciation models for Accounting team using Hadoop. Led team of 2, analysed and refined historical data, optimized queries, streamlined error handling, communicated 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 maintenance time.
- End-to-end ownership of critical business application contributing to sale of garments. Added new features, maintained and streamlined the module after cross-team communication 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: Joint entity recognition and linking Feb 2018 - April 2018

- Worked on Bi-LSTM model that performs better than baseline TaggerOne by ~3%. Built a neural linking model for entity linking.

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.

Machine Learning - A polynomial based supervised model Jul 2013 – May 2014

- Implemented neural network(NN) model that used polynomial learning function to train itself, aiming to do better than other NN models.
- Calculated upper bound of the learning rate leading to faster convergence, that increased its accuracy to 99.36% for Iris, 89.6% for WBDC and 92.5% for Hyperthyroid datasets.

TECHNICAL SKILLS

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