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, RL

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

PROFESSIONAL EXPERIENCE

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

- Worked on unsupervised machine learning method, with a research-based NLP team at Lexalytics, to extract keywords for a given product from user reviews (often consists of incorrect grammatical sentences).
- Received good feedback on improvements to the noisy cluster using cosine distance metric. Extracted keywords demonstrated interesting sub-categories. It is now being evaluated for downstream tasks like sentiment analysis.
- Successfully integrated company's first deep learning model, convolution neural network, using Tensorflow.

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

- Built an automated bookkeeping tool to capture depreciation values of merchandize. Led a team of 2, analyzed and refined historical data, optimized queries, streamlined error handling, communicated with Finance and BI team. Reduced weeks of manual work to few clicks.
- Designed and implemented real-time Distributed Search Engine(Elasticsearch) API in the internal search tool, transitioned from Trie data structure. Decreased memory consumption by 99% and reduced maintenance time.
- Owned Garments Sale, a critical business application. Analyzed and updated refund, shipment process by improving the existing code. Reduced customer complaints by 98%.

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

- Implemented a new model of Quality of Service(QoS) to capture customer experienced quality metrics of streamed videos. Modularized QoS to simple, bug free code design. Enhanced the module to real-time Events Architecture that helped Customer Support team in rapid identification of issues faced by the customers.

PROJECTS

Question Answering in Context Mar 2019 - Present

- Develop a Question Answering system specifically on QuAC dataset.

Named entity recognition(NER) and linking for Biomedical papers Feb 2018 - Apr 2018

- Worked in Prof Andrew McCallum's IESL lab in collaboration with Chan Zuckerberg Initiative. Used Bidirectional LSTMs and CRF in Tensorflow that performed better than baseline TaggerOne by ~3% for NER. Used a simplified model from Gupta et.al. for linking. Due to large entity types, training linking model was difficult.

Cross-domain image retrieval Oct 2018 - Dec 2018

- Performed image retrieval for fashion dataset, given a consumer image (or a query image) retrieved the corresponding/most similar shop images. Trained a siamese network with triplet loss achieved accuracy of 55.3%.

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.

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%

TECHNICAL SKILLS

Programming Skills: Python, Pytorch, Tensorflow, MySql, REST, Git, Linux, Java/C++