ABHISHEK MOHTA

(412) 320-9043 ⋄ amohta@andrew.cmu.edu ⋄ abhimohta.github.io ⋄ github.com/abhimohta

EDUCATION

Carnegie Mellon University - School of Computer Science   December 2019
Masters in Computer Science, CGPA: 4.11/4.0
Coursework: Neural Networks for NLP*, Parallel Computer Architecture and Programming*, Machine Learning,
Deep Learning, Probability and Mathematical Statistics, Computer Systems
Teaching Assistant: Topics in Deep Learning*

Birla Institute of Technology and Science (BITS) Pilani, Goa, India   July 2017
M.Sc. Economics, B.E. Computer Science, CGPA: 9.41/10
Merit Scholar - 8/10 semesters (top 2% of >600 students)

SKILLS

Programming Languages: C, Java, Python, C#
Tools and Frameworks: PyTorch, CNTK, Git, Powershell, Visual Studio

EXPERIENCE

Microsoft Research, Research Fellow, Bangalore, India   July 2017 - June 2018
· Guide: Dr. Prateek Jain, Senior Researcher, Microsoft Research India
· Enhanced the PROSE framework (in MS Excel) with machine learned models replacing hand-written heuristics.
· Implemented Neural Guided Deductive Search (NGDS) - a hybrid of symbolic logic techniques and statistical
models - using LSTMs in CNTK to prune branches in the synthesis process improving performance by >75%.
· Paper published at International Conference on Learning Representations (ICLR), 2018 and patent filed. [Link]

Microsoft Research, Research Intern, Bangalore, India   Jan 2017 - June 2017
· Enabled Whole Program Analysis as a service - built a scalable and reliable end-to-end system to statically analyze
code and find bugs leveraging Static Module Verifier (SMV).
· Successfully ran on the Windows drivers code base and found 350+ bugs - null pointers and use-after-free.

Amazon Development Centre, SDE Intern, Bangalore, India   July 2016 - Dec 2016
· Created new features in the Automated Content Correction and Validation engine based on n-gram models.
· Implemented a part of the infrastructure for a feedback system to reduce manual intervention for data validation.

Microsoft Development Center, Summer Intern, Hyderabad, India   May 2016 - July 2016
· Implemented a classifier to find new/missing restaurants in Bing leveraging query logs, achieved >90% accuracy.

PROJECTS/ASSIGNMENTS (GITHUB) (KAGGLE)

LSTMemNet : Generic Approach for solving ____ in reading comprehension   CMU — Fall 2018
· Built the LSTMemNet architecture for solving fill-in-the-blank type questions for reading comprehensions.
· Drew inspiration from the state-of-the-art memory networks and LSTMs to create a generic architecture that
works well across all 4 domains - named entities, common nouns, verbs and prepositions.
· Empirically a better generic model than any of the current state-of-the-art models; Submission in progress.

Development of Deep learning models on Speech WSJ dataset   CMU — Fall 2018
· Implemented the LAS architecture - speech to text using attention networks and beam search
· Phoneme prediction by learning Language Model using CNNs, LSTMs, and CTC loss
· Speaker embedding verification using CNNs and transfer learning; Speech frame classification using MLPs
· Implemented the backpropagation algorithm of MLPs from scratch, including momentum and batch normalization

Development of Machine Learning models   CMU — Fall 2018
· Implemented decision trees, logistic regression, kNNs, K-means, neural networks and basic HMMs

Development of integral systems components from scratch   CMU — Summer 2018
· Implemented the malloc/calloc/free function, a proxy server with cache, a linux shell (tsh-tiny shell) and a generic
cache simulator