

# ABHISHEK MOHTA

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## EDUCATION

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### **Carnegie Mellon University - School of Computer Science**

December 2019

*M.S., Computer Science, CGPA: 4.17/4.0*

*Coursework:* Deep Reinforcement Learning\*, Algorithms\*, Probabilistic Graphical Models, Neural Networks for NLP, Distributed Systems, Machine Learning, Deep Learning, Probability and Mathematical Statistics

*Teaching Assistant:* Topics in Deep Learning (Prof. Ruslan Salakhutdinov)

### **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

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**Programming Languages:** C, Java, Python, C#

**Tools and Frameworks:** PyTorch, Tensorflow, CNTK, Git, Powershell, Visual Studio

## EXPERIENCE

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### **Uber ATG, Prediction Team, Summer Intern, Pittsburgh, PA**

May 2019 - August 2019

- Guide: Dr. Tzu-Kuo Huang, Senior Autonomy Engineer, Uber ATG
- Worked on developing a novel algorithm to predict the trajectories of actors surrounding the autonomous vehicle.
- Built a model to learn the pure pursuit parameters from data; theoretically proved feasibility of solution and implemented the model.

### **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.

### **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 driver 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

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### ***Learning to walk using hierarchical reinforcement learning***

CMU — Spring 2019

- Implemented HRL model to make an ant solve mazes; added novel regularization methods for smoother learning.

### ***Not one, I learn many tasks - Extended MT-DNN architecture***

CMU — Spring 2019

- Developed MTL models on GLUE - broke SOTA for CoLA dataset by novel ensembling on pre-trained BERT.

### ***LSTMNet : Generic Approach for solving ---- in reading comprehension***

CMU — Fall 2018

- Implemented architecture leveraging LSTMs and memory networks; empirically better generic model than SOTA

### ***Development of Deep learning models on Speech WSJ dataset***

CMU — Fall 2018

- Developed models for speech-to-text, phoneme prediction, speaker verification, speech frame classification tasks

### ***Development of Machine Learning models from scratch***

CMU — Fall 2018

- Implemented decision trees, logistic regression, kNNs, K-means, neural networks and basic HMMs