Tushar Nagarajan
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Education

The University of Texas at Austin
M.S. Computer Science | 2016 - present | GPA: 3.9/4
Coursework: Visual Recognition, Deep Learning, Natural Language Processing

BITS Pilani, Goa Campus, India
B.E. Computer Science | 2011 - 2016 | GPA: 9.4/10
MSc. Physics (dual degree)
Coursework: Artificial Intelligence, Data Mining, Quantum Computing, Cryptography

Skills

Programming: Python, Java, C/C++, Lua, Octave/Matlab, R
Packages: Torch, Caffe, Tensorflow, Hadoop, Spark

Research Experience

Activity Recognition with Biased Datasets | Jan 2017–
Research Assistant | Dr. Kristen Grauman | UT Austin
· Exploring strong dataset biases, and their effect on the generalization ability of models.
· Exploring learning constraints to aid prediction of semantically related activities.

Neural Models for Relation Extraction with Background Knowledge | Jun 2015 – Jul 2016
Research Intern | Dr. Partha Talukdar | Indian Institute of Science, Bangalore
· Modeled neural network architectures with attention mechanisms for the task of relation extraction.
· Explored the hypothesis that background information (in the form of verb and entity similarities) acts as intelligent regularizers during optimization.

Distributed Machine Learning with Apache Spark | Summer 2014
Research Intern | Dr. Sourangshu Bhattacharya | Indian Institute of Technology, Kharagpur
· Built a generalized quadratic optimizer in Java/Scala to optimize modified objective functions for support vector machines (SVM)
· Deployed system on the Apache Spark framework and benchmarked against LibSVM.

Computational Design of Antimicrobial Peptides | Jun - Dec 2015
Collaboration with Dept. of Biochemistry | Indian Institute of Science, Bangalore
· Designed protein sequences that exhibit antimicrobial properties using residue level recurrent neural networks (in Torch)
· Synthesized the designed peptide sequences and performed biochemical tests for antimicrobial activity.

Additional Experience

· **Teaching Assistant** - Introduction to Data Management at UT Austin — Aug - Dec 2016
· **Teaching Assistant** - Artificial Intelligence at BITS Pilani — Aug - Dec 2014