## Aaditya Prakash (Adi) aprakash@brandeis.edu, iamaaditya.github.io Blog **a**, Github **O**, Scholar **B**, LinkedIn **in**, Twitter

RESEARCH	Current: Model parallelism in CNNs, Defense against robust adversarial attacks © Past: Paraphrase Generation ©, Applications of Memory Networks in NLP © Semantic Image Compression using CNN©, Visual Question Answering © Computational Fact Checking with Retrospection ©	Advisor: Sadid Hasan Advisor: James Storer Advisor: Liuba Shrira
EDUCATION	PhD, Computer Science, Brandeis University. Advisor: Prof. James Storer 2	Current
	MA, Computer Science, Brandeis University  Courses: Algorithms, Distributed Systems, Statistical approaches to NLP  Computational Semantics, Computational Neuroscience, Information Retrieval	May 2015 GPA = $4.0/4.0$
	BS, Biomedical Engineering, Bharath University, Chennai, India <i>Courses</i> : Calculus(I, II), Complex Analysis, Numerical Methods, Digital Signal Processing Biostatistics, Medical Physics, Medical Imaging Lab, Modeling of Physiological Systems	2004-2008 $GPA = 9.36/10$ $Rank = 1/71$
	Completed 24 MOOC courses from Coursera, Udacity, edX, Harvard Business School Machine Learning (Ng), Game Theory, Algorithms, Neural Networks (Hinton), AI (Abbe	2012 − 2013 el) Certificates ♂
COMPUTING SKILLS	Languages  Deep Learning Research Tools Big Data Tools Code Samples  Equation 1: Python, C, C++, CUDA, Matlab TensorFlow[TF], Keras, PyTorch, Theano, Torch iPython, SciPy, NumPy, NLTK, OpenCV, Git, Late X Hadoop, MapReduce, MongoDB, Mahout, Spark VQA [Keras] A Multi-structure ROI [TF] Neural Paraphrase Generation [TF] Multi-agent GANs [TF], Fallacy Detector [Haskell]	
EXPERIENCE	<ul> <li>Research Intern, Qualcomm Research</li> <li>Explored model parallelism for convolutional neural networks</li> </ul>	Summer 2017
	<ul> <li>Architecture learning for reduced model complexity</li> </ul>	
	• Deep Learning Developer (contract), Spin Master <sup>TM</sup> , Canada	Oct-Dec 2016
	<ul><li>Designed CNN models for fine grained classification of various toys</li><li>Developed Android App for classification/detection in real-time</li></ul>	
	• Associate Research Scientist (part-time), AI Labs, Philips Research, Cambridge, MA	2016 - 2017
	<ul> <li>Use of neural networks for detecting adverse drug reaction, WWW 2017 d</li> <li>Clinical text simplification and paraphrase generation, Clinical-NLP COLING 2016 d</li> </ul>	3
	Research Intern, AI Labs, Philips Research, Cambridge, MA	Summer 2016

– Explored applications of LSTM in sequence to sequence learning, COLING  $2016\,\mbox{\em c}$ - Developed efficient representation of memory state for Memory Networks, AAAI 2017₺ · Big Data Analyst, Brandeis University

- Summer 2014
- Researched various new techniques in data analysis on Hadoop and Spark framework
- Designed assignments and quizzes for a graduate level course
- Teaching Assistant, Brandeis University

2013-Current

- Mobile Application Development
- Scientific Data Processing in MATLAB
- Fundamentals of Artificial Intelligence
- Introduction to Big Data Analysis

- Theory of Computation
- Data Structures
- Introduction to Algorithms
- Data Compression & Multimedia

· Independent Algorithmic Trading

2010-2012

- Statistical Arbitrage trades on co-integrated pairs (INFY/TCS, ICICI/IDFC, MRF/Apollo)
- Low latency Options strategies (Butterfly spread) on Nifty50
- Designed, developed and programmed several algorithmic strategies as a contractual work
- Senior Systems Engineer, Infosys Limited ☑

2009-2013

- Developed new algorithm to visualize large unstructured datasets
- Implemented various Machine Learning algorithms on Map-Reduce (Mahout)
- Analyzed various fault measures in distributed optimization problems
- Independent Tutoring, Bharath University ☑

2007-2009

- Courses taught: C, C++, Java, Maths [I, II, III, IV], Computer Architecture
- Taught more than 50 students in batch sizes ranging from 2 to 15

## **RECOGNITIONS**

- · Roberto Padovani (Qualcomm) Scholarship Award, 2017
- Outstanding Teaching Fellow, Brandeis University 2017<sup>™</sup>
- · Advisory board member, OneQube ♂
- Honorable spotlight award, Visual Question Answering Challenge, CVPR 2016
- Best paper award at International Conference on Perspective of Computer Confluence, Pune 2012  $ilde{ ilde 2}$
- · Gold Medal (for securing highest rank), Bharath University, Chennai 2008

## **PUBLICATIONS**

- PDFC Prakash, Aaditya, et al. Semantic Perceptual Image Compression using Deep CNNs. IEEE DCC 2017
- PDFC Prakash, Aaditya, et al. Condensed Memory Networks for Clinical Diagnostic Inferencing. AAAI 2017
- PDFC Lee, Kathy, et al. Adverse Drug Event Detection in Tweets with Semi-Supervised CNNs. WWW 2017
- PDFC Prakash, Aaditya, et al. Neural Paraphrase Generation with Stacked Residual LSTM. COLING 2016
- PDFC Prakash, A. & Storer, J, Highway Networks for Visual Question Answering, CVPR (VQA) 2016
- PDFC Prakash, A. Reconstructing Self Organizing Maps as Spider Graphs for better visual interpretation of large unstructured datasets. *Infosys Lab Briefings*, Vol 11. INFY 2013
- PDF<sup>12</sup> Prakash, A. Measures of Fault Tolerance in Distributed Simulated Annealing. *Proceedings of International Conference on Perspective of Computer Confluence with Sciences* Vol 1 pp111-114. PICPC 2012
- PDFC Prakash, A., & Jha, R. K. New Interface Protocol to Connect Multiple Bank Networks from a Single Outlet. *International Journal of Computer Applications, NY, USA*, Vol 55 pp1-9. IJCA 2012