Aaditya Prakash (Adi)

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Blog 🔊, Github ⚙, Scholar 🎓, LinkedIn in, Twitter 🐦

RESEARCH	Current: Model parallelism in CNNs, Defense against robust adversarial attacks ⊡ & ⊡	
	Past : Paraphrase Generation ⊡ , Applications of Memory Networks in NLP ⊡	Advisor: Sadid Hasan
	Semantic Image Compression using CNN⊡ , Visual Question Answering ⊡	Advisor: James Storer
	Computational Fact Checking with Retrospection ⊡	Advisor: Liuba Shrira

EDUCATION	PhD, Computer Science, Brandeis University. Advisor: Prof. James Storer ⊡	Current
	MA, Computer Science, Brandeis University	$2013 - 2015$
	Courses: Algorithms, Distributed Systems, Statistical approaches to NLP	GPA 4.0/4.0
	Computational Semantics, Computational Neuroscience, Information Retrieval	
	BS, Biomedical Engineering, Bharath University, Chennai, India	$2004 - 2008$
	Courses: Calculus(I, II), Complex Analysis, Numerical Methods, Digital Signal Processing	GPA 9.36/10
	Biostatistics, Medical Physics, Medical Imaging Lab, Modeling of Physiological Systems	Rank = 1/71
	Completed 24 MOOC courses from Coursera, Udacity, edX, Harvard Business School	$2012 - 2013$
	Machine Learning (Ng), Game Theory, Algorithms, Neural Networks (Hinton), AI (Abbeel)	Certificates ⊡

COMPUTING SKILLS	Languages : Python, C, C++, CUDA, Matlab	
	Deep Learning : TensorFlow[TF],Keras, PyTorch, Theano, Torch	
	Research Tools : iPython, SciPy, NumPy, OpenCV, Git, Bash, LaTeX	
	Big Data Tools : Hadoop, MapReduce, MongoDB, Mahout, Spark	
	Code Samples : VQA [Keras] ⊡ , Multi-structure ROI [TF] Neural Paraphrase Generation [TF]⊡	
	: Multi-agent GANs [TF], Fallacy Detector [Haskell] ⊡	

EXPERIENCE	• Research Intern, Qualcomm Research	Summer 2017
	– Explored model parallelism for convolutional neural networks	
	– Architecture learning for reduced model complexity	
	• Deep Learning Developer (contract), Spin Master™, Canada	Oct-Dec 2016
	– Designed CNN models for fine grained classification of various toys	
	– Developed Android App for classification/detection in real-time	
	• Associate Research Scientist (part-time), AI Labs, Philips Research, Cambridge, MA	$2016 - 2017$
	– Use of neural networks for detecting adverse drug reaction, WWW 2017 ⊡	
	– Clinical text simplification and paraphrase generation, Clinical-NLP COLING 2016 ⊡	
	• Research Intern, AI Labs, Philips Research, Cambridge, MA	Summer 2016
	– Explored applications of LSTM in sequence to sequence learning, COLING 2016 ⊡	
	– 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⌕
- 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 ⌕
- Gold Medal (for securing highest rank), Bharath University, Chennai 2008

PUBLICATIONS
♟→ first author

- ♟ Deflecting Adversarial Attacks with Pixel Deflection. · In-review 2017 PDF⌕
- ♟ Semantic Perceptual Image Compression using Deep CNNs (oral). · IEEE DCC 2017 PDF⌕
- Visual Lecture Summary using Intensity Correlation Coefficient. · IMVIP 2017 PDF⌕
- ♟ Condensed Memory Networks for Clinical Diagnostic Inferencing. · AAAI 2017 PDF⌕
- Adverse Drug Event Detection in Tweets with Semi-Supervised CNNs. · WWW 2017 PDF⌕
- ♟ Neural Paraphrase Generation with Stacked Residual LSTM. · COLING 2016 PDF⌕
- ♟ Highway Networks for Visual Question Answering (honorable award). · CVPR (VQA) 2016 PDF⌕
- ♟ Reconstructing Self Organizing Maps as Spider Graphs for Better Visual Interpretation of Large Unstructured Datasets. *Infosys Lab Briefings*, Vol II. · INFY 2013 PDF⌕
- ♟ Measures of Fault Tolerance in Distributed Simulated Annealing (best paper). · PICPC 2012 PDF⌕