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	:	VQA [Keras] ⌂, Multi-structure ROI [TF]⌂, Neural Paraphrase Generation [TF]⌂
	:	Multi-agent GANs [TF]⌂, Pixel Deflection [Keras]⌂, 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 (spotlight).   CVPR 2018 PDF⬀
- 👤 Protecting JPEG Images Against Adversarial Attacks (oral).   IEEE DCC 2018 PDF⬀
- Visual Lecture Summary using Intensity Correlation Coefficient.   IMVIP 2017 PDF⬀
- 👤 Condensed Memory Networks for Clinical Diagnostic Inferencing.   AAAI 2017 PDF⬀
- 👤 Semantic Perceptual Image Compression using Deep CNNs (oral).   IEEE DCC 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⬀