

Samarth Mishra

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EDUCATION	<ul style="list-style-type: none">• Georgia Institute of Technology <i>Masters in CS with specialisation in ML</i> Atlanta, GA Expected December 2018• Indian Institute of Technology, Bombay <i>B. Tech (Honors) in CS and Minor in EE</i> (GPA : 9.46/10) Mumbai, India 2013-2017
WORK EXPERIENCE	<p>Software Engineering Intern Samsung HQ, Seoul Summer 2016</p> <ul style="list-style-type: none">• Ported a host based intrusion detection system for linux onto Samsung's Tizen OS• Developed an application for Tizen3.0 for process monitoring via log parsing• App features a user-friendly UI, notification alerts and active response to misbehaving processes <p>Visiting Scientist IST Austria Summer 2015</p> <ul style="list-style-type: none">• Built an implementation for weighted recursive state machines (RSMs)• Implemented a reachability algorithm on RSMs with finite-height semiring weights• Established significant speed improvement over jMoped. Results published in ESOP '17 <p>Teaching Assistant IIT Bombay 2015-17</p> <p>Teaching Assistant for 3 courses in Computer Science and Mathematics at IIT Bombay : Computer Networks, Intro to Computer Programming, Intro to Linear Algebra</p> <p>Placement Coordinator Dept of CS, IIT Bombay 2016-17</p> <p>Elected by students of department of computer science, IIT Bombay. Conducted informatory and preparatory sessions such as resume making, interview prep, coding tests, etc.</p>
KEY ACADEMIC PROJECTS	<p>Developmental Deep Learning <i>(Special Problem)</i> Ongoing</p> <ul style="list-style-type: none">• Comparing learning for object recognition in modern deep nets with learning in human babies• Extending previous work on iterative machine teaching to come up with optimal learning sequences• Coming up with a simple stochastic model for generating object sequences <p>Kernel Dictionary Learning <i>(B.Tech Thesis)</i> 2016-17</p> <ul style="list-style-type: none">• Implemented kernel dictionary learning on spherical manifold. Compared vs a euclidean baseline• Experimented with different regularizers like different p-norms, graph regularization• Analysed data from different experiments to demonstrate trends indicated by theory <p>Medical Image Segmentation : DeepCut Spring 2017</p> <ul style="list-style-type: none">• Implemented deepcut to segment out heart from chest MR images• Used a conv net to learn soft segmentation from user provided bounding box annotations• Employed a dense CRF to regularize, and find hard segmentation using graph cut <p>Reinforcement Learning : Carrom playing bot Fall 2016</p> <p>Implemented and evaluated three different strategies (deep Q-learning, deep deterministic policy gradients, and hand coding heuristics) for building a carrom playing bot</p> <p>Equilibria in multiplayer timed games <i>(RnD project)</i> Fall 2015</p> <p>Proved undecidability of determining the existence of cost-bounded (Nash, Stackelberg or Incentive) equilibrium for a timed multiplayer non-competetive game with 3 or more clocks</p>
SKILLS AND INTERESTS	<ul style="list-style-type: none">• Software skills : C C++ Java Python MATLAB \LaTeX 2_ε HTML Javascript CSS Numpy Pandas Tensorflow Git Bash Hadoop Pig Spark D3• Interested in Machine Learning, Artificial Intelligence, Computer Vision• Trained in Indian classical vocal music. Can play basic guitar
PUBLICATIONS	Krishnendu Chatterjee, Bernhard Kragl, <i>Samarth Mishra</i> , Andreas Pavlogiannis: Faster Algorithms for Weighted Recursive State Machines. <i>26th European Symposium on Programming (ESOP), 2017</i>
ACHIEVEMENTS AND AWARDS	<ul style="list-style-type: none">• Awarded Institute Academic Prize, IIT Bombay 2014• All India Rank 30 in JEE-Main among 1.3 million candidates 2013• Gold medal in Indian National Physics Olympiad for being among top 35 in India 2013• PM's Trophy Scholarship, awarded by Steel Authority of India Ltd. 2013-17• Kishore Vaigyanik Protsahan Yojana (KVPY) scholar : All India Rank 27 2012-13• National Talent Search Examination (NTSE) scholar 2009-12
EXTRA-CURRICULAR ACTIVITIES	<ul style="list-style-type: none">• Web and Coding Club Hackathon, 2014 : built an ad-removing chrome extension• 3rd position in Entertainment Quiz, Freshiezza, IIT Bombay 2013• Semi-finalist, Prof. Brahm Prakash Memorial Materials Quiz, IIM Kalpakkam, 2012