

Samarth Mishra

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EDUCATION	<ul style="list-style-type: none">Georgia Institute of Technology <i>Atlanta, GA</i> <i>Masters in CS with specialisation in ML</i> (GPA : 4.0/4) Expected May 2019 Advisor : Prof. James M. RehgIndian Institute of Technology, Bombay <i>Mumbai, India</i> <i>B. Tech (Honors) in CS and Minor in EE</i> (GPA : 9.46/10) 2013-2017
PUBLICATIONS	<p>S. Stojanov, <i>Samarth Mishra</i>, A. Thai, N. Dhanda, A. Humayun, C. Yu, L. B. Smith, J. M. Rehg: Incremental Object Learning from Contiguous Views. <i>Oral, IEEE Conference on Computer Vision and Pattern Recognition (CVPR)</i>, 2019</p> <p>K. Chatterjee, B. Kragl, <i>Samarth Mishra</i>, A. Pavlogiannis: Faster Algorithms for Weighted Recursive State Machines. <i>26th European Symposium on Programming (ESOP)</i>, 2017</p>
EXPERIENCE	<p>Graduate Student Researcher <i>Georgia Tech</i> Ongoing Research on Computer Vision and Deep Learning with Prof. James M. Rehg: <ul style="list-style-type: none">Incremental Object Learning (CVPR' 19): Introduced a new synthetic data generating environment and a 3D object dataset for incremental object learning. Established importance of repetition in incremental learning and introduced the paradigm of weak supervision along with a baseline solution.Discriminative 3D Shape Representations : Working on learning discriminative 3D shape representations from multiple object views without explicit class supervision.</p> <p>MTS - Intern (Machine Learning) <i>Nutanix Inc.</i> Summer 2018 Established a proof of concept for using semantic parsing and machine learning to handle natural language queries on a subset of Nutanix's multi-cluster management database.</p> <p>Software Engineering Intern <i>Samsung</i> Summer 2016 Developed a mobile application on Tizen3.0 OS for process monitoring via log parsing, with a user friendly UI, notification alerts and active responses for misbehaving processes</p> <p>Visiting Student Researcher <i>IST Austria</i> Summer 2015 Implemented a fast reachability algorithm on weighted recursive state machines(RSMs) with finite height semiring weights. Established significant speed improvement over jMoped on SLAM/SDV</p> <p>Teaching <ul style="list-style-type: none">Graduate Teaching Assistant for AI at Georgia Tech (Spring 2018 - Spring 2019)Teaching Assistant for 3 classes in CS and Math at IIT Bombay : (2015-17) Computer Networks, Intro to Computer Programming, Intro to Linear Algebra</p>
KEY ACADEMIC PROJECTS	<p>GPGPU solutions for Linear Least Squares Problem <i>Spring 2018</i> Implemented the following general purpose GPU (GPGPU) solutions for the linear least squares problem and compared with the corresponding CPU implementations : Householder QR decomposition, Cholesky decomposition and Givens QR decomposition</p> <p>Kernel Dictionary Learning <i>(Bachelor's Thesis)</i> 2016-17 Implemented kernel dictionary learning on a spherical manifold. Studied the effect of different regularizers and kernels, on robustness in classification performance of the algorithm, under different kinds and intensities of noise, on MNIST handwritten digits dataset</p> <p>Medical Image Segmentation : DeepCut <i>Spring 2017</i> Implemented DeepCut image segmentation algorithm and used it to segment out the heart from human chest MR images. Used a conv net for soft segmentation and a dense CRF for regularization.</p> <p>Reinforcement Learning : Carrom playing bot <i>Fall 2016</i> Implemented and evaluated three different strategies (deep Q-learning, deep deterministic policy gradients, and hand coding heuristics) for building a carrom playing bot</p>
SKILLS	<ul style="list-style-type: none">Languages : C C++ Java Python MATLAB Bash HTML Javascript CSS \LaTeX 2_{ϵ}Technologies : PyTorch Tensorflow Theano CUDA Blender Numpy Hadoop Pig Spark
ACHIEVEMENTS AND AWARDS	<ul style="list-style-type: none">Awarded Institute Academic Prize, IIT Bombay 2014All India Rank 30 in JEE-Main among 1.3 million candidates 2013Gold medal in Indian National Physics Olympiad for being among top 35 in India 2013PM's Trophy Scholarship, awarded by Steel Authority of India Ltd. 2013-17Kishore Vaigyanik Protsahan Yojana (KVPY) scholar : All India Rank 27 2012-13National Talent Search Examination (NTSE) scholar 2009-12