

# Sanyam Kapoor

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<b>EDUCATION</b>	<b>New York University</b> , NY, USA <i>Master of Science, Computer Science</i> , GPA: 3.94/4 <ul style="list-style-type: none"><li>• Masters Thesis Fellowship, Courant Institute, Fall 2018</li></ul>	May 2019
	<b>IIT Hyderabad</b> , Hyderabad, India <i>Bachelor of Technology, Computer Science</i> , GPA: 8.62/10 <ul style="list-style-type: none"><li>• TODAI Scholarship, University of Tokyo, Spring 2013</li><li>• Academic Excellence Award, Fall 2012</li></ul>	May 2016
<b>PUBLICATIONS</b>	*Resnick, C., *Raileanu, R., <b>Kapoor, S.</b> , Peysakhovich, A., Cho, K., and Bruna, J. Backplay: “Man muss immer umkehren”. <i>ArXiv e-prints</i> , 2018 <b>Kapoor, S.</b> Multi-Agent Reinforcement Learning: A Report on Challenges and Approaches, 2018	
<b>RESEARCH EXPERIENCE</b>	<b>Leveraging Communication for Efficient Sampling</b> <i>Advisor: Joan Bruna</i> <ul style="list-style-type: none"><li>• Investigated key failures of modern sampling techniques like HMC</li><li>• Proposed particle communication via Graph Neural Networks to improve particle-based sampling</li></ul>	Nov 2018 - onwards
	<b>Survival Analysis for Time-Dependent Covariates</b> <i>Advisor: Rajesh Ranganath</i> <ul style="list-style-type: none"><li>• Identified critical survival tasks in clinical healthcare using MIMIC-III dataset</li><li>• Proposed a stick-breaking process using <i>Deep Markov Model</i> to model patients</li></ul>	Oct 2018 - Dec 2018
	<b>Cooperative zero-sum games</b> <i>Advisors: Joan Bruna and Cinjon Resnick</i> <ul style="list-style-type: none"><li>• Investigated challenges of modeling non-stationary multi-agent systems</li><li>• Implemented RL agents based on Q-Learning and Curriculum Learning</li></ul>	Mar 2018 - May 2018
	<b>Molecular Dynamics via machine learning</b> <i>Advisors: Rob Fergus and Alexander Rives</i> <ul style="list-style-type: none"><li>• Ported GROMACS C++ source to predict protein energies in Python</li><li>• Implemented Monte-Carlo sampling for exploration of molecule topology</li></ul>	Jan 2018 - May 2018
<b>INDUSTRY EXPERIENCE</b>	<b>Uber AI Labs</b> , <i>AI Resident</i> , San Francisco, USA <ul style="list-style-type: none"><li>• Accepted to the program with a &lt; 1% acceptance rate</li><li>• Working on sequential decision making using probabilistic modeling</li></ul>	June 2019 - onwards
	<b>Google</b> , <i>Software Engineering Intern</i> , Sunnyvale, USA <ul style="list-style-type: none"><li>• Implemented end-to-end Natural Language Code Search example on Kubeflow</li><li>• Designed Apache Beam Pipelines and Neural Networks using TensorFlow</li><li>• Demo proposal accepted to KubeCon North America 2018</li></ul>	May 2018 - Aug 2018
	<b>Headout</b> , <i>Software Engineer</i> , Bengaluru, India <ul style="list-style-type: none"><li>• Led internal developer tooling and designed A/B experiments</li></ul>	Dec 2016 - Jul 2017

- Reduced developer onboarding from days to 1/2 hour
- Slashed application deployment and rollback downtime by 99%

**StoryXpress**, *Co-Founder*, Hyderabad, India May 2013 - Aug 2016

- Built the cloud video service for economical ad creation at scale
- Designed the in-house video rendering engine using *OpenGL*
- Generated 2000+ videos/month, authored APIs and website for clients like *Target*

## TEACHING EXPERIENCE

**Head Grader**, *Machine Learning*, NYU Spring 2019  
**Teaching Assistant**, *Introduction to Machine Learning*, NYU Spring 2019  
**Section Leader**, *Inference and Representation*, NYU Fall 2018  
**Grader**, *Introduction to Machine Learning*, NYU Fall 2018  
**Recitation Leader**, *Data Structures*, NYU Spring 2018  
**Grader**, *Machine Learning*, NYU Spring 2018

## HONORS & AWARDS

**StackOverflow Top Contributor**: Reputation 4323 (as of Mar '19); “*top 8% this year*”; reached 1.2 million people, 2019  
**NASSCOM Emerge 50**: *StoryXpress* among 500+ startups across India for innovation impact, 2015  
**HYSEA Best Software Product, Student Innovation**: *StoryXpress* winner among 100+ startups, 2015  
**Microsoft Build the Shield, India**: First Runner up among 280 teams, 2015  
**ACM ICPC Amritapuri Regionals**: Finalist among 1500+ teams, 2013

## OTHER PROJECTS

**TorchRL**: Scalable Reinforcement Learning framework in PyTorch with modular implementations and complete documentation of DQN, A2C, PPO & DDPG  
**MariaDB Scheduler**: Proof-of-Concept scheduler for distribution MySQL on top of Mesos DC/OS  
**Docker Consul**: Docker container with networking tweaks for quorum management via Consul, pulled 25000+ times  
**QuickSlots v2.0**: Improved timetable management system with scheduling modeled as *Min-Cost Bipartite Matching Problem*  
**COOL Compiler**: Lexing, Parsing and Semantic Phases for the *Classroom Object Oriented Language*

## TECHNICAL SKILLS

**Languages**: Python, C, C++, Node, Java, Go  
**Technologies**: PyTorch, TensorFlow, Pyro PPL, CUDA, scikit-learn, MySQL, React, Docker, Ansible, OpenGL