SANYAM KAPOOR

+1 (201) 710-0784 ◇ sanyam@nyu.edu ◇ www.sanyamkapoor.com

EDUCATION

Courant Institute of Mathematical Sciences, New York University Sept 2017 - present
Masters in Computer Science, GPA: **3.9/4.0**

Indian Institute of Technology (IIT) Hyderabad, India Aug 2012 - May 2016
Bachelors in Computer Science and Engineering, **GPA: 8.62/10.0** (top 10)

- **TODAI Award, University of Tokyo** for outstanding academic performance, 2013
- **Academic Excellence Award** for highest Semester GPA, 2012

RESEARCH INTERESTS

Machine Learning, Reinforcement Learning, Multi-Agent Systems, Meta-Learning, Bayesian Learning, Adaptive Control

RESEARCH EXPERIENCE

Zero-sum Games in Cooperative Multi-Agent Environments Mar 2018 - present
Advisor: Joan Bruna and Cinjon Resnick

- Building Reinforcement Learning algorithms for Cooperative Zero-Sum Multi-Agent games
- Finding efficient ways to model teammates and opponents (stationary/non-stationary)
- Inspired by the Theory of Mind framework from Cognitive Science

Machine Learning for Predicting Protein Structures Jan 2018 - present
Advisor: Rob Fergus and Alexander Rives

- Designing Deep Neural Networks to build Energy estimators for protein chains
- Building Python interfaces to Molecular Dynamics simulator Gromacs to extract protein properties
- Using Monte-Carlo techniques to explore the molecule topology space and Graph Neural Networks to model the feature space

eDrishti, Engagement Level Detection in MOOC Videos Jan 2015 - Apr 2015
Advisor: Vineeth N Balasubramanian

- Generated facial features for expression using Gabor Filters on a self-curated dataset of 200 videos
- Recognized engagement levels (low, medium, high) with an accuracy of 67%

PROFESSIONAL EXPERIENCE

Software Engineering Intern, Google *Sunnyvale, CA (***google.com)** May 2018 - Aug 2018

- Building Scalable Machine Learning Infrastructure
- Part of the Kubeflow project based on Kubernetes and Tensorflow
- Prototyping Semantic Search on the Kubeflow Platform

Software Engineer, Headout *Bengaluru, India (***headout.com)** Dec 2016 - Jul 2017

- Executed experiments for the Growth Team, delivered client APIs for the Platform team
- Led internal developer tooling, reduced developer on-boarding from a full day to half an hour
- Led migration to a CI/CD infrastructure for automated deployments based on Docker and AWS
- Slashed application rollback downtime by 100%

Co-Founder, StoryXpress, *Hyderabad, India (***storyxpress.co)** May 2013 - Aug 2016

- Co-founded the Cloud Video Service for large scale video creation from static content
- Built an in-house Video Rendering Engine on top of OpenGL, generated around 2000 videos per month
- Led development of enterprise APIs and Web Application for enterprises like Target and TradeIndia

TEACHING EXPERIENCE

Machine Learning Grader Jan 2018 - May 2018

Primary Instructor: David Rosenberg, Center for Data Science, NYU

- Grader for foundational graduate course ML1003 Machine Learning and Computational Statistics ($\sim$ 150 students)
- Topics include Gradient Optimization, Regularization, Kernel Methods, Bayesian Methods, Neural Networks

Data Structures Instructor Jan 2018 - May 2018

Primary Instructor: Anasse Bari, Courant Institute, NYU

- Design and deliver lectures for foundational undergraduate course CS102 Data Structures ($\sim$ 150 students)
- Topics include OOP, Recursion, Algorithm Runtime Analysis, Sorting, Hash Tables, Graphs

HONORS AND AWARDS

StackOverflow Top Contributor, top 7% among 8.5+ million members, 2018

NASSCOM Emerge 50, *StoryXpress* among 500+ startups across India for innovation impact, 2015

HYSEA Best Software Product, Student Innovation, *StoryXpress* 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 - A Scalable Reinforcement Learning framework in PyTorch with modular implementations of popular algorithms

MariaDB Scheduler - A Proof-of-Concept on top of DC/OS based on a very early-stage framework

Docker Consul - A Docker container with networking tweaks. Used for quorum management. 25000+ pulls.

QuickSlots v2.0 - A Timetable Scheduler modeled as Min-Cost Bipartite Matching Problem

COOL Compiler - Lexing, Parsing and Semantic Phases for the Classroom Object Oriented Language

TECHNICAL SKILLS

Programming Languages: Python, C, C++, Node, Java, Go

Technologies: PyTorch, OpenCV, Scikit-learn, OpenGL, MySQL, React, Docker, Ansible, Vagrant