Amartya **Sanyal**

(+44) 7448438276 | amartya18x@gmail.com | https://www.amartya18x.github.io | amartya18x | @AmartyaSanyal

Education

D.Phil in Computer Science (Advisor : Dr. Varun Kanade and Dr. Phil Torr) *2017 - 2021*

University of Oxford, St. Hugh's College

B.Tech. in Computer Science and Engineering (Minor in Linguistics Theory) *CPI - 9.4/10.0*

Indian Institute of Technology, Kanpur *2013 - 2017*

Research Experience

Facebook AI Research, Edward Grefenstette *London, UK*

Research Intern *June 2020*

Generalization in Reinforcement Learning.

Laboratory for Computational and Statistical Learning, Prof. Lorenzo Rosasco *Genoa, Italy*

Visiting Researcher, Implicit Regularization of Gradient Descent *June 2019 - July 2019*

- Understanding the implicit regularization of Gradient Descent.

Twitter, Cortex *New York, NY, USA*

Research Intern, Adversarial Generation of Discrete Sequences *May2017 - August 2017*

- Worked on developing a novel model for discrete sequence generation using adversarial techniques

Montreal Institute of Learning Algorithms, Prof. Yoshua Bengio *Montreal, QC, Canada*

Research Intern , Language Modelling with Adaptive Segmentation *May, 2016 - July, 2016*

- Worked on a multi-scale sequence modelling algorithm.

Amazon.com - Guided by Dr. Atool Saroop and Dr. Rajeev Rastogi *Bengaluru, India*

Machine Learning Intern, Competitive pricing with the Machine Learning Seller Service Team *May, 2015 - July, 2015*

- Built machine learning models to estimate fair prices of products sold on Amazon.

Teaching Responsibilities

'19', '20	**Tutor in Theory of Optimization (60 students)**, Department of Engineering Science	*University of Oxford*
'18, '19, '20	**Tutor in Machine Learning**, Wadham College, Worcester College, Dept. of Computer Science	*University of Oxford*
'17	**Teaching Assistant in Computational Complexity**, Department Computer Science	*University of Oxford*
'14	**Academic Mentor**, Linear Algebra, Real Analysis and ODEs	*IIT Kanpur*

Academic Reviewing

'20	**Reviewer for SODA 2020**,
'19, '20	**Reviewer for NeurIPS 2019, 2020, ICML 2020**,
'20	**Reviewer for CVPR 2020, ECCV 2020**,
'20	**Reviewer for Workshop on Continual Learning**, ICML 2020
'19	**Reviewer for Critiquing and Correcting Trends in Machine Learning**, NeurIPS 2019

Awards & Visits

'19	**NeurIPS Top Reviewer Award**, One of the Top 400 reviewers
'18 '20	**ICML Travel Award, ICLR Travel Award**, International Machine Learning Society
'18	**Attended Machine Learning Summer School**, Buenos Aires, Argentina
'17-'20	**Turing Doctoral Studentship Award**, The Alan Turing Institute, London, UK
'14 & '16	**Academic Excellence Award**, IIT Kanpur
'13	**KVPY(Kishore Vaigyanik Pratyashona Yojana)** , awarded to 280 students by the Gov. of India

Program Committees

2018	**Wining and Dining Officer**, St. Hugh's College MCR	*University of Oxford*
2019	**Vice-President**, St. Hugh's College MCR	*University of Oxford*
2015	**Editor**, Vox Populi, Campus Newsletter of IIT Kanpur	*IIT Kanpur*
2016	**Coordinator**, SIGML - Special Interest Group in Machine Learning	*IIT Kanpur*
2011	**President**, Social Welfare Group, St. Xaviers School, Raiganj	
2015	**Editorial Executive**, Science And Technology Council - Core Team	*IIT Kanpur*

Courses

Courses Computational Learning Theory•Linear Algebra •Introduction to Programming •Data Structures •Advanced Data Structures •Machine Learning Principles •Compilers •Operating Systems •Computer Organization •Theory of Computation •NeuroBiology •Database •Linguistics •NLP •Optimization •Multi Agent Systems •Algorithmic Information Theory •Linguistic Universals •Linguistic Typology

Publications

Stable Rank Normalization for Improved Generalization in Neural Networks and GANs
Amartya Sanyal, Philip H.S. Torr, Puneet K. Dokania
International Conference on Learning Representations (ICLR), Spotlight Paper, 2020

How Benign is Benign Overfitting ?
Amartya Sanyal, Varun Kanade, Philip H.S. Torr, Puneet K. Dokania
In Submission, 2020

Progressive Skeletonization: Trimming more fat from a network at initialization
Pau Jorge, Amartya Sanyal, Harkirat S. Behl, Philip H. S. Torr, Gregory Rogez, Puneet K. Dokania
In Submission, 2020

The Intriguing Effects of Focal Loss on the Calibration of Deep Neural Networks
Jishnu Mukhoti, Amartya Sanyal, Viveka Kulharia, Stuart Golodetz, Philip H. S. Torr, Puneet K. Dokania
Workshop on Uncertainty and Robustness in Deep Learnning, ICML 2020, Spotlight paper, 2020

TAPAS: Tricks to Accelerate (encrypted) Prediction As a Service
Amartya Sanyal, Matt Kusner, Adria Gascon, Varun Kanade
International Conference on Machine Learning (ICML), 2018

Robustness via Low Rank Representations
Amartya Sanyal, Varun Kanade, Philip H.S. Torr, Puneet Dokania
Workshop on Theory and Application of Deep Generative Models, ICML, 2018

Optimizing non-decomposable measures with deep networks
Amartya Sanyal, Pawan Kumar, Purushottam Kar, Sanjay Chawla, Fabrizio Sebastiani
Springer,Machine Learning (2018). 2018

Multiscale sequence modeling with a learned dictionary
Bart Merriënboer, Amartya Sanyal, Hugo Larochelle, Yoshua Bengio
Workshop on Machine Learning in Speech and Language Processing, ICML, 2017

Agent based simulation of the evolution of society as an alternate maximzation problem
A. Sanyal, S. Garg, A. Unmesh, H. Karnick
2017 International Conference on Behavioral, Economic, Socio-cultural Computing (BESC), 2017

A Hybrid Deep Architecture for Face Recognition in Real-Life Scenario
Amartya Sanyal, Ujjwal Bhattacharya, Swapan K. Parui
Lecture Notes in Computer Science (Vol. 10481), 2016