

CONTACT	Department of Statistics University of Oxford, UK <i>Webpage:</i> <a href="https://hrushikeshloya.github.io">hrushikeshloya.github.io</a>	+91 9769316234  <a href="mailto:hrushikesh.loya@balliol.ox.ac.uk">hrushikesh.loya@balliol.ox.ac.uk</a> 
INTERESTS	Probabilistic Modeling, Machine Learning, Population Genetics, Statistical Genetics	
EDUCATION	<b>University of Oxford, Oxford, UK</b> Doctor of Philosophy in <b>Genomic Medicine and Statistics CDT</b> Supervisors: <b>Prof. Simon Myers</b> and <b>Prof. Pier Palamara</b> Funding: Clarendon Scholarship and Wellcome PhD studentship	Sep 2020 – Present
	<b>Indian Institute of Technology, Bombay, Mumbai, India</b> Bachelor and Master of Technology in <b>Electrical Engineering</b> Major Cumulative GPA: <b>9.54/10</b> Class rank: <b>3 in 82</b>	Jul 2015 – Jun 2020
	<b>National University of Singapore, Singapore</b> TFI-LEaRN Semester Exchange Program Electrical Engineering and Computer Science with Cumulative GPA of <b>9.8/10</b>	Aug 2018 – Dec 2018
PUBLICATIONS	<b>Uncertainty Estimation in Cancer Survival Prediction</b> AI4AH Workshop at International Conference on Learning Representations (ICLR) <b>Hrushikesh Loya</b> , Pranav Poduval, Deepak Anand, Neeraj Kumar and, Amit Sethi	Mar 2020
	<b>Stochastic Activation &amp; Bistability in a Rab GTPase Network</b> Proceedings of the National Academy of Sciences of the United States of America (PNAS) Urban Bezaljak, <b>Hrushikesh Loya</b> , Beata Kaczmarek, Martin Loose, Timothy Saunders	Jan 2020
	<b>Functional Space Variational Inference for Uncertainty Estimation in Computer Aided Diagnosis</b> Medical Imaging and Deep Learning (MIDL) Conference Pranav Poduval, <b>Hrushikesh Loya</b> , Amit Sethi	Jan 2020
	<b>Bayesian Framework for Cancer Survival Prediction</b> Annals of Oncology <b>Hrushikesh Loya</b> , Deepak Anand, Pranav Poduval, Neeraj Kumar and, Amit Sethi	Nov 2019
RESEARCH EXPERIENCE	<b>COIN++: Fast implicit neural compression with meta-learning and modulations</b> Department of Statistics, University of Oxford Advisor: <b>Prof. Yee Whye Teh</b> Soon to be published, COIN++ is a data-agnostic compression method using advances in meta-learning and model compression. COIN++ not only performs better on image level data but easily extends on other data modalities like MRI scans and atmospheric pressure fields.	Jun 2021 – Present
	<b>GhostBuster: Finding ghost populations using genome-wide genealogies</b> Department of Statistics, University of Oxford Advisor: <b>Prof. Simon Myers</b> Developed an expectation-maximization algorithm to identify ghost populations that mix together to form a present-day sample. GhostBuster is already able to detect back migration events from Eurasia to Africa, and evidence for Neanderthal introgression with modern humans.	Mar 2021 – Present
	<b>Bayesian machine learning for polygenic risk scores</b> Department of Statistics, University of Oxford Advisor: <b>Prof. Pier Palamara</b> Proposed Bayesian neural networks with spike and slab prior to the capture sparsity and correlation in the effect estimates across different ethnicities. Our method is not only more scalable compared to the gold standard but also gives better cross-ethnic PRS in undersampled populations.	Dec 2020 – Mar 2021

**Bayesian framework for cancer survival prediction and prognosis**

Electrical Engineering, IIT Bombay

Apr 2019 – Jun 2020

Master's Thesis; Advisor: Prof. Amit Sethi

Built an end-to-end pipeline for accurate uncertainty estimation in cancer survival prediction using genomic information and some clinical features available in TCGA-BRCA.

TECHNICAL  
SKILLS

Programming Python, C++, C, MATLAB, Julia, Git, Shell, Slurm, L<sup>A</sup>T<sub>E</sub>X  
Python modules NumPy, Pandas, SciPy, PyTorch, JAX, Haiku

ACADEMIC  
HONORS

Recipient of the **Medical Sciences CDT award** and **Clarendon Fellowship** 2020

Department **rank 3** in Electrical Engineering batch of 82 students at IIT Bombay 2020

Recipient of the **Undergraduate Research Award** at IIT Bombay 2020

For excellence in research conducted towards completion of master's thesis

Awarded **TFI-LEaRN Scholarship** for semester exchange in NUS 2018

1 out of 45 scholars from Asia to be recognized as Leaders of tomorrow

Recipient of the **Institute Academic Prize** at IIT Bombay 2017

For being one of the top two in the department based on a year's performance

Secured an All India Rank of **839** in the Joint Entrance Examination 2015

Among 150,000 shortlisted candidates for admission into the Indian Institutes of Technology

OTHER  
INTERESTS

Volunteered in **National Social Service, India** to promote a green campus

**Teaching Assistant** for five undergraduate level courses at IIT Bombay

Administered installation of bouldering wall & facilitated camps for 800+ enthusiasts

**Sports:** Passionate about sport climbing indoors and outdoors