

**SANIT GUPTA***sanitsgupta@gmail.com* ◊ *Webpage* ◊ *LinkedIn* ◊ *Github***EDUCATION****Indian Institute of Technology Bombay**, *Mumbai, India**Jul '16 - Jul '20*

B.Tech in Mechanical Engineering, Minor in Computer Science | Major GPA: 8.6/10.0, Minor GPA: 9.5/10.0

**PROFESSIONAL EXPERIENCE****Optiver***Trader**Sep '20 - Present**Amsterdam, The Netherlands*

- Market making options on the Euro Stoxx 50 Index (Europe's leading blue-chip index)
- Managed a trading book; acting on flow of data from various sources to make trading decisions
- Developed and backtested automated strategies for trading spreads between European and American markets

**Max Planck Institute for Intelligent Systems***Research Intern under [Falk Lieder](#)**May '19 - Jul '19**Tübingen, Germany*

- Developed multiple computational models to reverse engineer human learning mechanisms
- Designed **bayesian reinforcement learning** agents controlling reward signal to reflect human biases
- Trained & evaluated several candidate models of planning on various metrics of closeness to humans

**Lymbyc***Data Science Intern**May '18 - Jul '18**Bangalore, India*

- Built an **ML pipeline** to classify e-commerce products, used **active learning** to incorporate feedback
- Impact: Active learning by **Pool-based Entropy Sampling** increased accuracy from **89.2%** to **98%**

**PREPRINTS AND PUBLICATIONS**

- PAC Mode Estimation using PPR Martingale Confidence Sequences Submitted to **NeurIPS 2021**  
*S. Jain, S. Gupta, D. Mehta, I. Nair, R. Shah, J. Vora, S. Khyalia, S. Das, V. Ribeiro, S. Kalyanakrishnan*
- [An India-specific Compartmental Model for Covid-19: Projections and Intervention Strategies](#) **arXiv**  
*S. Gupta et al.*
- Worked in coordination with **ICMR**; results presented to the Karnataka CM and Government of India officials
- [How do people learn how to plan?](#) **CCN 2019**  
*Y.R. Jain, S. Gupta, V. Rakesh, P. Dayan, F. Callaway, F. Lieder*

**RESEARCH PROJECTS****Developing and Analyzing Algorithms for the Multi-Armed Bandit***Guide: [Shivaram Kalyanakrishnan](#)**Aug '18 - Apr '20**Dept. of Computer Science & Engineering, IIT Bombay*

- Developed and analyzed novel algorithms for the regular bandit setting and a "batch-sampling" setting
- Empirically demonstrated superior performance of these algorithms over baselines in both settings

**PAC-Optimal Reinforcement Learning with a simulator***Guide: [Shivaram Kalyanakrishnan](#)**Sept '19 - Apr '20**Dept. of Computer Science & Engineering, IIT Bombay*

- Designed sample efficient algorithms inspired from literature on the best arm identification problem in bandits
- To this end, designed Markov chain sampling strategies for quick and accurate policy evaluation

**Parallel Computing for the Laplace Equation on Unstructured Grids***Guide: [Shivasubramanian Gopalakrishnan](#)**May '17 - Jul '18**Dept. of Mechanical Engineering, IIT Bombay*

- Developed a distributed solver for the Laplace's equation for arbitrarily shaped three dimensional objects
- Achieved upto **14x** speed-up over the serial solution, prepared a manuscript to be submitted for publication

**SKILLS AND RELEVANT COURSEWORK**

<b>Skills</b>	<ul style="list-style-type: none"> <li>• <b>Programming Languages:</b> C++, Python, R, mySQL, Solidity, webPPL, HTML, CSS, L<sup>A</sup>T<sub>E</sub>X</li> <li>• <b>Libraries/Packages:</b> Keras, PyTorch, OpenMP, MPI, Tensorflow, SciKit Learn, Cuda</li> </ul>
<b>Key Courses</b>	<ul style="list-style-type: none"> <li>• Advances in Intelligent &amp; Learning Agents, Machine Learning, Stochastic Models, High Performance Computing, Data Structures &amp; Algorithms, IEOR, Optimization, Data Analysis</li> </ul>

**MISCELLANEOUS**

- Awarded the **Undergraduate Research Award** in recognition of exceptional research *'19*
- Represented IIT Bombay at the **6th Annual Inter-IIT Tech Meet** at IIT Madras *'18*
- Ranked **1st (out of 147)** in IITB in **American Express's AnalyzeThis**, a data science competition *'17*
- Developed technical projects for social good at the **National Innovation Club**, IIT Bombay *'17*