

DHRUV SARKAR

+91-9062102340 [✉ dhruv.sarkar223@gmail.com](mailto:dhruv.sarkar223@gmail.com) [in](#) LinkedIn

RESEARCH INTERESTS

Sequential Decision Making and Interactive Learning; Test-Time Alignment of LLMs; Generative Models; Theoretical Foundations of Machine Learning; Stochastic Optimization; Computational Optimal Transport.

EDUCATION

Indian Institute of Technology Kharagpur, India <i>B.Tech. (Honours) + M.Tech., Computer Science and Engineering</i> <i>Thesis advisors: Prof. Abhishek Sinha and Prof. Sayak Ray Chowdhury</i>	2026
Pathfinder Higher Secondary Public School, India <i>West Bengal Higher Secondary School Certificate</i>	2021
La Martiniere for Boys, India <i>Indian School Certificate Examination</i>	2019

PUBLICATIONS

Conference Publications

1. **Optimal Anytime Algorithms for Online Convex Optimization with Adversarial Constraints**
Dhruv Sarkar, Abhishek Sinha
The 43rd International Conference on Machine Learning (ICML 2026)
2. **Improved Algorithms for Nash Welfare in Linear Bandits**
Dhruv Sarkar, Nishant Pandey, Sayak Ray Chowdhury
The 43rd International Conference on Machine Learning (ICML 2026)
3. **Projection-free Algorithms for Online Convex Optimization with Adversarial Constraints**
Dhruv Sarkar, Aprameyo Chakrabartty, Subhamon Supantha, Palash Dey, Abhishek Sinha
The 29th International Conference on Artificial Intelligence and Statistics (AISTATS 2026)
4. **Relation-Aware Slicing in Cross-Domain Alignment**
Dhruv Sarkar, Aprameyo Chakrabartty, Anish Chakrabarty, Swagatam Das
The 29th International Conference on Artificial Intelligence and Statistics (AISTATS 2026)
5. **Revisiting Social Welfare in Bandits: UCB is (Nearly) All You Need**
Dhruv Sarkar, Nishant Pandey, Sayak Ray Chowdhury
The 29th International Conference on Artificial Intelligence and Statistics (AISTATS 2026)
6. **DP-NCB: Privacy Preserving Fair Bandits**
Dhruv Sarkar, Nishant Pandey, Sayak Ray Chowdhury
The 40th Annual AAAI Conference on Artificial Intelligence (AAAI 2026)

Workshop Publications

1. **Optimal Anytime Algorithms for Online Convex Optimization with Adversarial Constraints**
Dhruv Sarkar, Abhishek Sinha
AAAI 2026 Workshop on Foretell of Future AI from Mathematical Foundation; later accepted at ICML 2026
2. **Do We Really Need Foundation Models for Multi-Step-Ahead Epidemic Forecasting?**
Mrinmoy Dey*, Aprameyo Chakrabartty*, Dhruv Sarkar*, Tanujit Chakraborty
NeurIPS 2024 Time Series in the Age of Large Models (TSALM) Workshop

Preprints

1. **Nonlinear Two-Time-Scale Stochastic Approximation: A Sharp Phase Transition and How to Beat It**
Dhruv Sarkar, Vaneet Aggarwal
Preprint

2. [Improved Guarantees for Constrained Online Convex Optimization via Self-Contraction](#)
Dhruv Sarkar, Abhishek Sinha
Preprint
3. [A Simple Reduction Scheme for Constrained Contextual Bandits with Adversarial Contexts via Regression](#)
Dhruv Sarkar, Abhishek Sinha
Under submission at NeurIPS 2026
4. [Online Learning for Approximately-Convex Functions with Long-Term Adversarial Constraints](#)
Dhruv Sarkar, Samrat Mukhopadhyay, Abhishek Sinha
Under submission at NeurIPS 2026

RESEARCH AND PROFESSIONAL EXPERIENCE

Mohamed bin Zayed University of Artificial Intelligence

May 2026 – July 2026

Visiting Researcher, hosted by [Prof. Junpei Komiyama](#), Department of Machine Learning

HONORS, AWARDS, AND GRANTS

- **AAAI-26 Student Scholarship & Volunteer Award:** awarded a \$1,250 travel scholarship, complimentary registration valued at \$590, and selection for the AAAI Student Volunteer Program at AAAI-26, Singapore.
- **AISTATS 2026 Registration Fee Waiver:** awarded complimentary registration valued at \$300 by the International Conference on Artificial Intelligence and Statistics.
- Ranked among the **top 5** of IIT Kharagpur by GPA at the end of freshman year and received the opportunity to major in **Computer Science and Engineering**.
- Secured **rank 309** in the **Joint Entrance Examination 2021** among approximately 1 million candidates.
- Awarded the **Kishore Vaigyanik Protsahan Yojana (KVPY)** Fellowship by the Department of Science and Technology, Government of India; qualified in Grades 11 and 12 and ranked among the top 1000 awardees from approximately **100K** candidates.
- Ranked **2nd** in the **SUMMIT math camp** for gifted high school students organized by Indian Statistical Institute, Kolkata.
- Secured **rank 38** in the **ISI BStat entrance test 2021** organized by Indian Statistical Institute, Kolkata.
- Ranked in the national **top 1%** in the **Indian Olympiad Qualifier in Physics 2020–21** and **Indian Olympiad Qualifier in Chemistry 2020–21**.
- Awarded the **JBNSTS Junior Scholarship 2019** among high school students across West Bengal.

TEACHING AND PROFESSIONAL SERVICE

- Teaching Assistant, **Statistical Learning Theory (CS60018)**, IIT Kharagpur, Autumn 2025.
- Teaching Assistant, **Programming and Data Structures (CS10003)**, IIT Kharagpur, Spring 2026.
- Reviewer for **AAAI 2026**.

SELECTED COURSEWORK

Mathematics: Probability & Statistics (A+), Advanced Calculus (A+), Linear Algebra (A+), Discrete Structures (A+), Computational Number Theory (A).

Machine Learning and Theory: Machine Learning (A), Advanced Machine Learning (A), Linear Algebra for AI and ML (A), Game Theory (A), Information Theory (A).

LEADERSHIP AND OUTREACH

- **General Secretary Management**, CodeClub, Department of Computer Science and Engineering, IIT Kharagpur.
- Mentor for first-year students, selected by the **Student Welfare Group**, IIT Kharagpur.
- Reporter at **The Scholars' Avenue**, a student media body of IIT Kharagpur.

- Programming & Data Structures mentor for first-year students under the Student Welfare Group, IIT Kharagpur.
- Unit Leader of a **National Service Scheme** unit at IIT Kharagpur.

REFERENCES

Prof. Abhishek Sinha

School of Technology and Computer Science
Tata Institute of Fundamental Research
abhishek.sinha@tifr.res.in

Prof. Swagatam Das

Electronics and Communication Sciences Unit
Indian Statistical Institute Kolkata
swagatam.das@isical.ac.in

Prof. Vaneet Aggarwal

School of Electrical and Computer Engineering
Purdue University
vaneet@purdue.edu

Prof. Sayak Ray Chowdhury

Department of Computer Science and Engineering
Indian Institute of Technology Kanpur
sayakrc@iitk.ac.in

Prof. Junpei Komiyama

Department of Machine Learning
Mohamed bin Zayed University of Artificial
Intelligence
junpeikomiyama@gmail.com