

Suvadip Sana

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Research Interests

My research focuses on the mathematical and algorithmic foundations of AI systems operating under diverse human preferences. My work spans **AI Value Alignment**, **Preference Learning**, **Democratic AI**, **Behavioral Evaluation** with broader interests in **AI Safety**, **AI Alignment** and **Societal Impacts of AI**.

Education

2021 – Spring 2027 (Expected)	Cornell University – Ithaca, New York, USA PhD in Statistics Chair: Martin T. Wells Academic Advisors: Lionel Levine, Moon Duchin
2021 – 2024	Cornell University – Ithaca, New York, USA Master in Statistics Grade: 3.93 / 4
2019 – 2021	Indian Statistical Institute – Bengaluru, Karnataka, India Master in Mathematics (M.Math) Honors: First Division with Distinction
2016 – 2019	Indian Statistical Institute – Bengaluru, Karnataka, India Bachelor in Mathematics (B.Math) Honors: First Division with Distinction

Publications and preprints

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| 2026 | EigenBench: A Comparative Behavioral Measure of Value Alignment
Jonathn Chang, Leonhard Piff, Suvadip Sana, Jasmine X. Li, Lionel Levine
<i>Fourteenth International Conference on Learning Representations (ICLR)</i> , 2026
<i>Oral Presentation (~ top 1 % of submissions)</i> , <i>Paper</i> |
| 2026 | Pluralistic Preference Alignment via Sortition-Weighted RLHF
Suvadip Sana, Jinzhou Wu, Martin T. Wells
<i>ICML 2026, Pluralistic Alignment Workshop</i> .
<i>Paper</i> : https://www.arxiv.org/abs/2602.05113 |

- 2026 **Gradation of Arrow's Axioms**
 Suvadip Sana, Peter Rock, Martin T. Wells, Moon Duchin
Submitted to Annals of Applied Statistics. [Preprint](#)
- 2026 **Mixing Times of Glauber Dynamics on Masked Language Models**
 Suvadip Sana, Sami Wolf, Neer Mehta, Alina Shah , Aitzaz Shaikh, Janna Goodman, Lionel Levine,
Submitted to NeurIPS 2026. [Preprint](#)
- 2026 **Statistical Aspects of Sortition**
 Suvadip, Martin T. Wells
In Preparation.

Other technical reports

- 2026 **Quantitative Relaxations of Arrow's Axioms**
 Suvadip Sana, Daniel Brous, Martin T. Wells, Moon Duchin
Preliminary version of Gradation of Arrow's Axiom paper.
Arxiv : <https://arxiv.org/abs/2506.12961>
- 2024 **A scalar matching factor on the Birkhoff polytope characterizing permutation and uniform matrices**
 Suvadip Sana
Arxiv: <https://arxiv.org/abs/2406.16284>.

Internship experience

- Summer 2026 **PiTech Impact Fellow (AI Engineering Intern), New York City Council Data team**
Advisor: Alaa Moussawi
Project: Building an AI routing system and MCP server to power a staff-facing chatbot that directs queries across multiple generative AI applications and external tools, helping NYC Council staff get faster, more accurate answers to complex legislative questions through a single seamless interface.
- Summer 2025 **Summer Fellow, Data and Democracy Lab, Cornell Brooks School of Public Policy**
Advisor: Moon Duchin
Project: Developing statistical measures of fairness for ranked-choice voting systems, enabling empirical evaluation of how closely electoral outcomes align with democratic principles derived from social choice theory.
- Apr – June 2020 **Statistical Analyst Intern, Siemens Healthineers, Bangalore, India**

Awards and Honors

- 2026 ICML 2026 Silver Reviewer Award
- 2026 Cornell Bowers CIS Social Impact and Service Award

2026	Cornell PiTech Impact Fellowship
2025	Tapia Conference Travel Award \$1500, <i>Travel to Dallas, Texas</i>
2024	NSF Travel award \$500, <i>Travel to IISA, 2024</i>
2024	Cornell Graduate school research travel grant \$1300, <i>for studying Ranked Choice elections</i>
2021-2022	Cornell PhD Graduate Fellowship. <i>Awarded to two incoming PhD students</i>
2020	NBHM Master Scholarship (Government of India)
2019	All India Rank-33 (IIT JAM). <i>National level entrance exam in Mathematical Statistics</i>
2019	All India Rank-3 (M.Stat entrance of ISI). <i>National level entrance exam in Statistics</i>
2016-2019	ISI Teacher's Award (Indian Statistical Institute). <i>Awarded to top 3 students</i>

Conference talks and poster presentations

February 2026	Social Choice for AI Ethics and Safety Workshop, IASEAI 2026, Paris, France. (<i>Invited talk</i>)
January 2026	Alignment Research Center, Berkeley ,CA. (<i>Invited talk</i>)
October 2025	Social Choice: Theory and Computation conference, Wellesley College, Massachusetts,USA (<i>Poster Presentation</i>)
July 2025	Fairness in Social Choice workshop, Northwestern University,USA (<i>Invited talk</i>)
January 2025	Joint Mathematical Meeting 2025, Seattle, USA. (<i>Contributed talk</i>).
December 2024	IISA 2024, Kerela, India (<i>Contributed talk</i>).
September 2024	Statistics Graduate Student Seminar, Cornell University (<i>Invited talk</i>).
August 2022	Hyundai Vision Conference, Seoul, South Korea. (<i>Poster presentation</i>).

Teaching Assistant

Spring 2026	MATH 2940 : Linear Algebra for Engineers, Cornell University Lead discussion sessions weekly and regular weekly office hours
Fall 2025	MATH 6710 : Probability theory I, Cornell University Weekly office hours and grading
Spring 2025	MATH 6720 : Probability theory II, Cornell University Weekly office hours and grading
Spring 2025	STSCI 4100 : Multivariate Statistics, Cornell University Grading and lab sessions
Fall 2024	MATH 6710 : Probability theory I, Cornell University Weekly office hours and grading
Fall 2023	MATH 6710 : Probability theory I, Cornell University Weekly office hours and grading

Fall 2023	CS 6386 : Data to Decisions, Cornell University Weekly office hours
SUMMER 2023	STSCI 2100 : Introductory Statistics, Cornell University Grading and office hours
Spring 2023	MATH 4720 : Statistics, Cornell University Weekly office hours and grading
Spring 2023	STSCI 5640 : Statistics for Financial Engineering, Cornell University Grading
WINTER 2023	STSCI 2100 : Introductory Statistics, Cornell University Grading and office hours
Fall 2022	STSCI 4090 : Theory of Statistics, Cornell University Weekly office hours and grading

Mentorship and service

September 2025- Present	Cornell AI Alignement club , Research lead
December 2024	IISA 2024 , Session chair
1 Jan 2022- 31 Dec 2022	Professional Development chair , Statistics Graduate Society, Cornell University
1 Jan 2022- 31 May 2022	Graduate Ambassador , Cornell CIS DEI, Cornell University

Academic Reviewing

2026	ICML 2026, NeurIPS 2026, ICML 2026 Pluralistic Alignment Workshop, AAAI 2027
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Skills

Programming

Proficient: Python, R

Familiar: Matlab

Software:

RAG, MCP server, HuggingFace, transformers, Git, RunPod, HuggingFace , VoteKit, Py-torch, FastAPI

Languages

English, Hindi, Bengali (native)

Other interests

Cooking, Soccer, Travelling