

# Sourav Sahoo

Operations Research Center, Massachusetts Institute of Technology

[Email](#)  $\diamond$  [Website](#)  $\diamond$  [Google Scholar](#)  $\diamond$  [Github](#)

## Education

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### Doctor of Philosophy in Operations Research

Massachusetts Institute of Technology

Advisor: [Prof. Negin Golrezaei](#)

Sept. 2023 - Present

GPA: 5.0/5.0

### Dual Degree (B.Tech & M.Tech) in Electrical Engineering

Indian Institute of Technology, Madras

Advisor: [Prof. Abhishek Sinha](#)

Thesis: The  $k$ -experts Problem.

July 2017 - July 2022

GPA: 9.56/10.00

## Publications, Preprints and Technical Reports

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- (P2) Bidding in Uniform Price Auctions for Value Maximizing Buyers.  
N. Golrezaei and **S. Sahoo**.  
*Under Review*.[\[Preprint\]](#)[\[Code\]](#)
- (P1) Online Subset Selection using  $\alpha$ -Core with no Augmented Regret.  
**S. Sahoo**, S. Chaudhary, S. Mukhopadhyay, and A. Sinha.  
*Under Review*.[\[Preprint\]](#)
- (C3) Distributed Online Optimization with Byzantine Adversarial Agents.  
**S. Sahoo**, A. Gokhale, and RK Kalaimani.  
*American Control Conference (ACC)*, 2022.[\[Paper\]](#)
- (C2)  $k$ -experts - Online Policies and Fundamental Limits  
S. Mukhopadhyay, **S. Sahoo**, and A. Sinha.  
*International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2022.[\[Paper\]](#)[\[Code\]](#)
- (C1) A Segment Level Approach to Speech Emotion Recognition Using Transfer Learning  
**S. Sahoo**, P. Kumar, B. Raman, and PP Roy.  
*Asian Conference on Pattern Recognition (ACPR)*, 2019.[\[Paper\]](#)[\[Supplementary\]](#)[\[Poster\]](#)[\[Code\]](#)
- (W1) Multi-Modal Detection of Alzheimer's Disease from Speech and Text.  
A. Mittal\*, **S. Sahoo**\*, A. Datar\*, J. Kadiwala\*, H. Shalu, and J. Mathew (\* equal contribution)  
*International Workshop on Data Mining in Bioinformatics (BIOKDD)*, 2021.[\[Preprint\]](#).
- (TR1) SVRG-SO: SVRG for Stochastic Optimization.  
**S. Sahoo** [\[Technical Report\]](#).

## Research Experience

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### Research Assistant

Indian Institute of Technology, Madras

May 2021 - Feb 2023

Guide: [Prof. Abhishek Sinha](#)

- Working on problems at the intersection of online learning, learning theory, and optimization.

### Undergraduate Researcher

Indian Institute of Technology, Madras

May 2021 - Sept 2021

Guide: [Prof. Rachel Kalpana Kalaimani](#)

- Studied non-constrained, online distributed optimization in a multi-agent system in the presence of adversarial agents. We defined the notion of regret in the considered setting and proved it to be sublinear.

### Research Intern

Indian Institute of Technology, Roorkee

May 2019 - July 2019

Guide: [Prof. Balasubramanian Raman](#)

- Proposed a novel deep learning model that predicts emotion for multiple segments of a single audio clip and utilizes transfer learning to improve performance.

## Industry Experience

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### Quantitative Research Analyst

*JPMorgan Chase & Co.*

July 2022 - July 2023

*Mumbai, India*

### Data Science Intern

*Gramophone - Transforming Agriculture*

Dec 2019 - Jan 2020

*Bengaluru, India*

## Awards and Honors

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**First Place** in MIT ORC Common Experience Deep Learning Challenge in 2024.

**Caltech Summer Undergraduate Research Fellowship (SURF)** in 2020.

**All India Rank 49** among 1.5 million applicants in JEE Mains 2017.

**Gold Medal** in Indian National Physics Olympiad, 2017.

**All India Rank 18** in Kishore Vaigyanik Protsahan Yojana, 2015.

**Certificate of Merit** in Indian National Mathematical Olympiad, 2015.

## Skills

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**Languages:** *Fluent:* English, Hindi. *Native:* Odia.

**Programming:** Python, C++

**Software & Libraries:** Tensorflow, PyTorch, CVX, L<sup>A</sup>T<sub>E</sub>X

## Teaching

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Teaching Assistant for EE1102: Introduction to Programming.

Spring 2022

Teaching Assistant for EE5110: Probability Foundations for Electrical Engineers.

Fall 2021

Teaching volunteer at Kendriya Vidyalaya (IIT Chennai) for high school science and mathematics.

2017-2018

## Presentations and Talks

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*Bidding in Uniform Price Auctions for Value Maximizing Buyers.*

– INFORMS Annual Meeting, Seattle, WA.

October 2024

– Revenue Management and Pricing (RMP) Section Conference, Los Angeles, CA.

July 2024

– Manufacturing and Service Operations Management (MSOM) Conference, Minneapolis, MN.

July 2024

## Services, Reviewing and Outreach

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**Journals:** IEEE Transactions on Automatic Control (2).

**Organizing:** MIT ORC Student Seminar Coordinator (Fall 2024).

## References

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### Prof. Negin Golrezaei

Sloan School of Management

Massachusetts Institute of Technology

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### Prof. Abhishek Sinha

School of Technology and Computer Science

Tata Institute of Fundamental Research

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