



Prem Kant

Department of Industrial Engineering & Operations Research
Indian Institute of Technology Bombay
Email: premkant072@gmail.com
Date of Birth: 11/06/1996

Research Interests

- Combinatorial Game Theory,
- Algorithmic Game Theory.
- Bidding Combinatorial Games,

Employment

Feb 2026 - present

Postdoctoral Fellow

Supervisor: Prof. Martin Mueller, Faculty of Science - Computing Science,
University of Alberta, Canada

Nov 2025 - Jan 2025

Research Scientist

Department of Industrial Engineering & Operations Research,
Indian Institute of Technology, Bombay, India

May 2025 - Oct 2025

Research Associate

Department of Industrial Engineering & Operations Research,
Indian Institute of Technology, Bombay, India

Education

2019 - 2025

Ph.D., Department of Industrial Engineering & Operations Research,
Indian Institute of Technology, Bombay, India

Thesis Title: *Bidding Combinatorial Games*

Advisors: Prof. Urban Larsson and Prof. K. S. Mallikarjuna Rao

2016 - 2018

M.Sc., Statistics–Operations Research

University of Hyderabad

Gold Medalist

2013 - 2016

B.Sc., Mathematics (Hons.)

St. Xavier's College, Ranchi

Fellowships & Awards

- INSPIRE Fellowship, Department of Science and Technology (DST), Government of India, awarded to pursue PhD.
- Gold Medal, M.Sc. in Statistics–OR, University of Hyderabad (2018).
- Qualified GATE 2019 in Statistics with AIR 23.

Technical Skills

- Programming Languages: Python, CG-Suite
- Design and Visualization Tools: Canva, Inkscape

Publications

- [3] Prem Kant and Urban Larsson. Survey on richman bidding combinatorial games. In Games of No Chance, volume 71, pages 43–54. MSRI Publ. Cambridge University Press, 2025. [[Link](#)]
- [2] Prem Kant, Urban Larsson, Ravi K Rai, and Akshay V Upasany. Constructive comparison in bidding combinatorial games. International Journal of Game Theory, pages 1–26, 2025. [[Link](#)]
- [1] Prem Kant, Urban Larsson, Ravi K. Rai, and Akshay V. Upasany. Bidding combinatorial games. The Electronic Journal of Combinatorics, 31(1):51, 2024. [[Link](#)]

Work in Progress

- Prem Kant and Urban Larsson. Numbers and infinitesimals in bidding combinatorial games.
- Prem Kant, Urban Larsson. A number game reconciliation. Preprint 2025. [[arXiv Link](#)]

Conference and Workshop Presentations

- “**Bidding Combinatorial Games**”
Presented at Games at Mumbai, IIT Bombay (Jan 2024).
- “**Constructive Comparison in Bidding Combinatorial Games**”
Presented at:
 - Combinatorial Group of the international community (Sep 2022),
 - The Japan Conference on Discrete and Computational Geometry, Graphs, and Games, JCDCG³ (Sep 2022, 2024),
 - Combinatorial Game Theory Colloquium 4 (Jan 2023).
- “**Numbers and Infinitesimals in bidding combinatorial games**”
Presented at Combinatorial Game Theory Colloquium 5 (Feb 2025).
- “**Survey on Richman Bidding Combinatorial Games**”
Presented at Recreational Mathematics Colloquium 8 (Feb 2025).

Teaching Assistantship

- Autumn 2020: IE 621: Probability and Stochastic Models-I with Prof. K.S. Mallikarjuna Rao
- Spring 2020: IE 616: Decision Analysis and Game Theory with Prof. K.S. Mallikarjuna Rao
- Autumn 2021: IE 708: Markov Decision Processes with Prof. K.S. Mallikarjuna Rao,
NPTEL Game Theory Course TA with Prof. K.S. Mallikarjuna Rao
- Spring 2021: IE 616: Decision Analysis and Game Theory with Prof. K.S. Mallikarjuna Rao
- Autumn 2022: IE 501: Optimization Models with Prof. K.S. Mallikarjuna Rao,
NPTEL Game Theory Course TA with Prof. K.S. Mallikarjuna Rao
- Spring 2022: IE 616: Decision Analysis and Game Theory with Prof. Urban Larsson
- Autumn 2023: IE 619: Combinatorial Game Theory with Prof. Urban Larsson,
NPTEL Game Theory Course TA with Prof. K.S. Mallikarjuna Rao
- Spring 2023: IE 616: Decision Analysis and Game Theory with Prof. Veeraruna Kavitha and
Prof. Urban Larsson

Leadership and Outreach

- **Sports Councillor, Hostel 18, IIT Bombay (June 2023- October 2024):**
Led sports activities for Hostel 18, comprising approximately 1100 students, in institute-wide competitions, and developed sports infrastructure and fitness facilities to support active participation.
- **Team Member, IIT Bombay Ultimate Frisbee Team (2024–2025).**
Represented IIT Bombay in several tournaments, including Udgaghosh (IIT Kanpur Sports Fest), Mumbai Locals, and Aavhan (IIT Bombay Sports Fest).
- **Organizer & Speaker, Games at Mumbai 2024, IIT Bombay (Jan 21–25, 2024):**
Co-organized the opening game session, assisted with workshop coordination, and delivered a talk on Combinatorial Game Theory.
- **Volunteer, WISE (Women in Science and Engineering), IIT Bombay, 2025:**
Conducted a session and assisted in delivering outreach activities aimed at introducing science and engineering to 200 girl students from rural backgrounds.
- **Volunteer, International Day of Yoga, IIT Bombay (2023, 2024):**
Contributed to event organization and logistics for institute-wide participation.
- **Volunteer, Mahashivratri, Isha Foundation Coimbatore(2023, 2025):**
Volunteered as a security coordinator during a night-long spiritual event attended by over 500,000 devotees, assisting in crowd management and ensuring safe and orderly movement across multiple areas of the venue.
- **Holds an NCC 'C' Certificate from the National Cadet Corps (India).**