

NEEL PATEL

Computer Science Theory Lab,
University of Southern California.
email: neelbpat@usc.edu

RESEARCH INTERESTS

- Algorithms, Combinatorial Optimization, Computational Economics and, Learning Theory

EDUCATION

- **Ph.D. in Computer Science, University of Southern California** (January 2021-Present)

Advised by Shaddin Dughmi and David Kempe

Current GPA: 4.0

- **B.Stat (Hons.), Indian Statistical Institute, Kolkata** (July 2015 - Sept 2018)

Major in Statistics and Probability, First Class with Distinction

PAST POSITIONS

- **Research Assistant-** NUS School of Computing, Singapore (July 2019 - November 2020)

Host: Dr. Yair Zick and Dr. Reza Shokri

Research: I worked on different problems in Explainable Machine Learning, Differential Privacy, Cooperative Game Theory, and Learning Theory.

- **Undergraduate Research Visitor-** Institute for Theoretical Computer Science, SUFE, Shanghai (May 2018 - July 2018)

Host: Dr. Nick Gravin

Research: I worked on the fairness guarantees of Bayesian Sequential Auctions and obtained bounds on the Price of Anarchy in full information as well as Bayesian setting for existing sequential auction mechanism.

- **Undergraduate Research Intern-** Game Theory Lab- CSA, IISc Bangalore (Nov 2017 - Dec 2017)

Host: Prof. Yadati Narahari

Research: As an undergrad, I explored different areas of Computational Economics. I presented research papers in the reading group of Algorithmic Game Theory.

RESEARCH PUBLICATIONS

- 1 **Sparsification of Stochastic Packing Problem**[Paper]

Yusuf Kalyaci, Shaddin Dughmi and **Neel Patel**

Working Paper

- 2 **Delegated Pandora's Box** [Paper]

Curtis Bechtel, Shaddin Dughmi and **Neel Patel**

In the proceeding of the Twenty-Third ACM Conference on Economics and Computation (EC 2022)

- 3 **Model Explanations with Differential Privacy** [Paper]

Neel Patel, Reza Shokri and Yair Zick

In the proceedings of the fifth ACM Conference on Fairness, Accountability, and Transparency (FAccT 2022)

- 4 **High Dimensional Explanation for Black-Box Models: Axiomatic Approach** [Paper]

Neel Patel, Martin Strobel and Yair Zick

In the proceedings of the fourth ACM Conference on Fairness, Accountability, and Transparency (FAccT 2021)

- 5 **The Price is (Probably) Right: Learning Market Equilibria From Samples** [Paper]

Omer Lev, **Neel Patel**, Vignesh Viswanathan and Yair Zick

In the proceeding of the 20th International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2021)

- 6 **Discrete Richman-bidding scoring games**[Paper]

Urban Larsson, **Neel Patel**, Ravi Kant Rai

International Journal of Game Theory 1-34

7 Keeping Your Friends Close: Land Allocation with Friends [Paper]

Edith Elkind, Neel Patel, Alan Tsang and Yair Zick

In the proceeding of the 29th International Joint Conference on Artificial Intelligence (IJCAI 2020)

Authors names are alphabetically

PROFESSIONAL ACTIVITIES

- **Teaching:**

Teaching Assistant: Algorithms (CSCI 270), University of Southern California. (Instructor: Shaddin Dughmi)

- **Reviewer:**

AAAI 2020, AAMAS 2020

- **Sub-Reviewer:**

WINE 2021 (PC Member: Arpita Biswas), SAGT 2021 (PC Member: Nick Gravin), EC 2020, ICML 2019,2020, NeurIPS 2019, FAT* 2020 (PC Member: Dr. Yair Zick), WINE 2019 (PC Member: Dr. Nick Gravin)

ACADEMIC ACHIEVEMENTS

- A recipient of the INSPIRE Student Scholarship, funded by the Department of Science and Technology, Govt. of India.
- Received student fellowship for B.Stat (Hons.) program from Indian Statistical Institute, Kolkata.
- Student fellowship for attending WINE 2017 hosted at IISc (Indian Institute of Science).
- Awarded prize money for excellent performance in semester examination at Indian Statistical Institute.

REFERENCES AVAILABLE TO CONTACT

- **Dr. Shaddin Dughmi** (e-mail: shaddin@usc.edu)
Associate professor, University of Southern California.
- **Prof. David Kempe** (e-mail: david.m.kempe@gmail.com)
Professor, University of Southern California
- **Dr. Yair Zick** (e-mail: yairzick@gmail.com)
Assistant professor, University of Massachusetts Amherst.
- **Prof. Edith Elkind** (e-mail: eelkind@gmail.com)
Professor, University of Oxford.
- **Dr. Nick Gravin** (e-mail: ngravin@gmail.com)
Associate professor, Institute of Theoretical Computer Science, SUFE.

TECHNICAL SKILLS

- **Languages:** C
- **Script:** Python, R
- **Tools:** Latex, R studio

MISCELLANEOUS

- I was a part of the Under-14 National and State cricket team. I pursued cricket professionally for 6 years.
- I love hiking and I have been to a couple of high altitude treks in the Himalayas.