

Aditya Prasad

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EDUCATION

University of Chicago

PhD in Computer Science

June 2024–Present

Chicago, IL

- Coursework: Mathematical Toolkit, Responsible Use of Data, Online Learning Operations and Electronic Markets

University of Southern California

Bachelor of Science in Computer Science – Magna Cum Laude

August 2020–May 2024

Los Angeles, CA

- Graduated from the W.V.T. Rusch Engineering Honors program.
- Selected Coursework: Convex and Combinatorial Optimization*, Advanced Analysis of Algorithms*, Frontiers of Machine Learning*, Theory of Machine Learning*, Data Structures and Object Oriented Design, Analysis of Algorithms, Software Development, Software Engineering, Computer Systems, Artificial Intelligence, Introduction to Internetworking

PAPERS

On Supermodular Contracts and Dense Subgraphs[†]

Ramiro Deo-Campo Vuong, Shaddin Dughmi, Neel Patel, Aditya Prasad

May 2022–July 2023

SODA 24 — [arXiv link](#)

dpvis: A Visual and Interactive Learning Tool for Dynamic Programming

David H. Lee, Aditya Prasad, Ramiro Deo-Campo Vuong, Tianyu Wang, Eric Han, David Kempe

January 2024–October 2024

SIGCSE TS 2025 — [arXiv link](#)

EXPERIENCE

Research Assistant - Contract Theory

University of Southern California

May 2022–July 2023

Los Angeles, CA

- Worked with Professor Shaddin Dughmi to solve supermodular single and multi-agent contracts problem.
- Developed a strongly poly-time algorithm to reconstruct single agent utility curve and calculate all breakpoints.
- Showed NP-Hardness of multi-agent problem and developed an additive-PTAS for the case of uniform cost graph instances.

Research Assistant - Linear Programming

University of Southern California

June 2023–Present

Los Angeles, CA

- Worked with Professor Vatsal Sharan to find new characteristics of optimal vertices in linear programming.

CSCI 270 (Algorithms) Course Producer

University of Southern California

January 2022–May 2023

Los Angeles, CA

- Held office hours and discussions to provide students with assistance on challenging course material.
- Designed and graded homework and exam problem sets.

CSCI 170 (Discrete Mathematics) Course Producer

University of Southern California

June 2023–August 2023

Los Angeles, CA

- Held office hours and discussions to provide students with assistance on challenging course material.
- Graded homework assignments and exams.

Artificial Intelligence Research Assistant

Purdue University

July 2019–May 2020

Princeton, NJ

- Implemented machine learning algorithms (neural networks, AdaBoost, random forests) with scikit-learn and Keras.
- Collaborated remotely with Professor Wreeto Kar to combine machine learning algorithms in ensemble learners.
- Applied ensemble learners in an ad selecting algorithm maximizing viewer retention rate and ad revenue.

HONORS

NSF Summer Research Grant

- Summer research grant for work in contract theory with Professor Shaddin Dughmi.

June 2022–August 2022

USC Viterbi Deans List

- Fall 2020, Spring 2021, Fall 2022, Spring 2023, Fall 2024

PROJECTS

Dynamic Programming Visualizer

David H. Lee, Aditya Prasad, Ramiro Deo-Campo Vuong, Tianyu Wang, Eric Han, David Kempe

August 2023–October 2024

- Developed a library with Professor David Kempe to visualize for arbitrary dynamic programs in Python.
- Creates an interactive visualization of arbitrary 1d or 2d dynamic program as it fills in the dynamic programming array.
- Released on PyPI in December 2023 for future use by students in USC's CSCI 270.

*Indicates graduate level course taken as an undergraduate.

[†]Names are ordered alphabetically.

SKILLS

Languages: Python, C++, C, Java, Matlab, R, Arduino

Libraries: Plotly, Matplotlib, Dash, NumPy, Tensorflow, scikit-learn, pandas, Keras, Pygame, Pyserial

Activities: Rock Climbing, Chess, Poker, Running, Hackathons