

JUSTIN PAYAN

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WEBPAGE: <https://justinpayan.github.io>

EDUCATION

University of Massachusetts Amherst

Sept '18 - Present

PhD Computer Science

(advised by [Yair Zick](#))

University of Georgia

Sept '13 - May '18

M.S. Artificial Intelligence, B.S. Mathematics, A.B. Cognitive Science

(advised by [Frederick Maier](#))

RESEARCH INTERESTS

I solve problems of social importance using techniques from market design, data science, and combinatorial optimization. I am also interested in the interplay between data science and combinatorial optimization; I use data science to collect and satisfy preferences in large markets, and apply combinatorial optimization for inference over structured data.

PUBLICATIONS

$(\alpha - \beta)$ indicates alphabetical order; asterisks indicate equal contribution.

1. [InstructExcel: A Benchmark for Natural Language Instruction in Excel](#)
Justin Payan, Swaroop Mishra, Mukul Singh, Carina Negreanu, Christian Poelitz, Chitta Baral, Subhro Roy, Rasika Chakravarthy, Benjamin Van Durme, and Elnaz Nouri
EMNLP 2023 (Findings)
2. [Into the Unknown: Assigning Reviewers to Papers with Uncertain Affinities](#)
Cyrus Cousins, **Justin Payan**, and Yair Zick $(\alpha - \beta)$
SAGT 2023
3. [Graphical House Allocation](#)
Hadi Hosseini, **Justin Payan**, Rik Sengupta, Rohit Vaish, and Vignesh Viswanathan $(\alpha - \beta)$
AAMAS 2023
4. [Relaxations of Envy-Freeness over Graphs](#)
Justin Payan, Rik Sengupta, and Vignesh Viswanathan $(\alpha - \beta)$
AAMAS 2023 (Extended Abstract)
5. [I Will Have Order! Optimizing Orders for Fair Reviewer Assignment](#)
Justin Payan and Yair Zick
IJCAI 2022
6. [Towards Realistic Single-Task Continuous Learning Research for NER](#)
Justin Payan, Yuval Merhav, He Xie, Satyapriya Krishna, Anil Ramakrishna, Mukund Sridhar, and Rahul Gupta
EMNLP 2021 (Findings)

7. [Online Post-Processing in Rankings for Fair Utility Maximization](#)
Ananya Gupta*, Eric Johnson*, **Justin Payan**, Aditya Roy, Ari Kobren, Swetasudha Panda, Michael Wick, and Jean-Baptiste Tristan
WSDM 2021
8. [Document Representations using Fine-Grained Topics](#)
Justin Payan, Nicholas Monath, and Andrew McCallum
Sets & Partitions Workshop at NeurIPS 2019

Working Papers:

9. Predicting Bids to Improve Reviewer Assignment
Cyrus Cousins, **Justin Payan**, and Yair Zick ($\alpha - \beta$)
10. Group Fair Resource Allocation under Uncertainty
Cyrus Cousins, Elita Lobo, **Justin Payan**, and Yair Zick ($\alpha - \beta$)
11. Online Reviewer Assignment
Cyrus Cousins, Amirmahdi Marfakhar, **Justin Payan**, and Yair Zick ($\alpha - \beta$)
12. Predicting Review Quality in Large Computer Science Conferences
Cyrus Cousins, Sheshera Mysore, Neha Nayak Kennard, **Justin Payan**, and Yair Zick ($\alpha - \beta$)
13. Combinatorial Optimization Based Document Structure Recognition
Justin Payan, Chris Tensmeyer, and Vlad Morariu

CODE CONTRIBUTIONS

OpenReview 2022
Created and deployed the [FairSequence reviewer matching algorithm](#) on OpenReview platform

INTERNSHIPS & PROFESSIONAL EXPERIENCE

Adobe Research , Document Intelligence Lab <i>Research Intern under Chris Tensmeyer</i>	May - August '23 College Park, MD
Microsoft , Calc Intelligence <i>Data Science Intern under Kartik Sridhar</i>	June - September '22 Redmond, WA
Amazon Alexa , Trustworthy Alexa <i>Research Intern under Yuval Merhav</i>	June - September '21 Cambridge, MA (remote)
Amazon Alexa , Trustworthy Alexa <i>Research Intern under Yuval Merhav</i>	May - August '20 Cambridge, MA (remote)
Vertica , Machine Learning <i>Software Engineer under Vincent Xu</i>	June '17 - June '18 Cambridge, MA

AWARDS & SCHOLARSHIPS

- University of Georgia Foundation Fellowship (2013-2017)
\$128,260 in tuition and stipend for housing, research, and travel

INVITED TALKS

- Brown University (E-GLAMOR Group), March 2023
Harvard University (EconCS Seminar), January 2023
Carnegie Mellon University (Nihar Shah's Group), November 2022
(*Into the Unknown: Assigning Reviewers to Papers with Uncertain Affinities*)
- UMass Data Analytics and Computational Social Science Brownbag Series, April 2021
(*Envy-Freeness in Paper Reviewer Assignment*)
- UMass Amherst Theory Seminar, April 2021
(*Fair Reviewer Assignment*)

ACADEMIC SERVICE

- **Workflow Chair** for IJCAI 2023
- **Workshop Co-organizer** for Computational Fair Division at IJCAI 2023
- **Program Committee / Reviewer** for ACL 2023
- **Subreviewer** for AAMAS 2022, GAIW at AAMAS 2022
- **Student Volunteer** at AAMAS '23, IJCAI '22

TEACHING / MENTORING / OTHER SERVICE

- **Instructor of Record** at UMass Amherst for *Intro to Numerical Computing with Python* (Fall 2020 & 2021)
- **Graduate Teaching Assistant** at UMass Amherst for *Intro to AI* (Fall 2018), *Intro to Problem Solving with Computers* (Fall 2020), and *Advanced Algorithms* (Spring 2021)
- **Graduate Mentor** for UMass Undergraduate Sloan Scholar (2023-2024)
- **Co-mentored** MS student on Searching for Fair Allocations (2021-2022)
- **Graduate Mentor** for UMass Undergraduate Research Volunteer Program (January 2021, June - July 2021)