

Naveen Raman

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EDUCATION

Carnegie Mellon University
PhD Machine Learning
Advisor: Fei Fang

Pittsburgh, PA
August 2023 -

University of Cambridge
MPhil Advanced Computer Science

Cambridge, England
October 2022 - June 2023

University of Maryland
Bachelor of Science - Computer Science and Math, Magna Cum Laude

College Park, MD
August 2018 - May 2022

EXPERIENCE

Amazon
Research Intern

Palo Alto, CA
Summer 2025

World Resource Institute
Research Intern

Washington DC
Spring 2022

MIT Lincoln Labs
Research Intern

Lexington, MA
Summer 2021

Facebook
Software Engineering Intern

Menlo Park, CA
Summer 2020

Software Engineering REU @ Carnegie Mellon
Research Intern

Pittsburgh, PA
Summer 2019

PUBLICATIONS

Refereed Conference and Journal Publications

[C10] Gao Mo*, Naveen Raman*, Megan Chai, Cindy Peng, Shannon Pagdon, Nev Jones, Hong Shen, Peggy Swarbrick, and Fei Fang. PeerCoPilot: A Language Model-Powered Assistant for Behavioral Health Organizations. *Innovative Applications of Artificial Intelligence* (IAAI) 2026

[C9] Naveen Raman, Jingwu Tang, Zhiyu Chen, Zheyuan Ryan Shi, Sean Hudson, Ameesh Kapoor, Fei Fang. RescueLens: LLM-Powered Triage and Action on Volunteer Feedback for Food Rescue. *Innovative Applications of Artificial Intelligence* (IAAI) 2026

[J1] Naveen Raman, Mateo Espinosa, Juyeon Heo, Mateja Jamnik. Do Concept Bottleneck Models Obey Locality? *Transactions on Machine Learning Research* (TMLR) 2025

[C8] Santiago Cortes-Gomez, Naveen Raman, Aarti Singh, Bryan Wilder. Data-driven Design of Randomized Control Trials with Guaranteed Treatment Effects. *International Conference on Machine Learning* (ICML) 2025

[C7] Naveen Raman, Holly Wiberg. Assortment Optimization for Matching Patients and Providers. *Machine Learning for Health* (ML4H) 2024

[C6] Naveen Raman, Ryan Shi, Fei Fang. Global Rewards in Restless Multi-Armed Bandits. *Conference on Neural Information Processing Systems* (NeurIPS) 2024

[C5] Naveen Raman, Mateo Espinosa Zarlenga, Mateja Jamnik. Understanding Inter-Concept Relationships in Concept-Based Models. *International Conference on Machine Learning* (ICML) 2024

[C4] Katherine M Collins, Matthew Barker, Mateo Espinosa Zarlenga, Naveen Raman, Uman Bhatt, Mateja Jamnik, Ilia Sucholutsky, Adrian Weller, Krishnamurthy Dvijotham. Human Uncertainty in Concept-Based AI Systems. *AAAI/ACM Conference on AI, Ethics, and Society* (AIES) 2023

[C3] Naveen Raman, Sanket Shah, John Dickerson. Data-Driven Methods for Balancing Fairness and Efficiency in Ride-Pooling. *International Joint Conference on Artificial Intelligence* (IJCAI) 2021

[C2] Naveen Raman, Minxuan Cao, Yulia Tsvetkov, Christian Kästner, Bogdan Vasilescu. Stress and burnout in open source: Toward finding, understanding, and mitigating unhealthy interactions. *International Conference on Software Engineering New Ideas and Emerging Results* (ICSE NIER) 2020

[C1] Guangqi Cui*, John Dickerson*, Naveen Durvasula*, William Gasarch*, Erik Metz*, Jacob Prinz*, **Naveen Raman***, Daniel Smolyak*, Sung Hyun Yoo*. A Muffin-Theorem Generator. *International Conference on Fun with Algorithms (FUN) 2018*

Refereed Workshop Papers and Extended Abstracts

[W4] Ariana Tang, **Naveen Raman**, Fei Fang, and Ryan Shi. Contextual Budget Allocation for Food Rescue Volunteer Engagement. *MLxOR Workshop at NeurIPS 2025*

[W3] **Naveen Raman**, Michael Yee. Improving Learning-to-Defer Algorithms Through Fine-Tuning. *Workshop on Human and Machine Decisions at NeurIPS 2021*

[W2] Andrew Mao*, **Naveen Raman***, Matthew Shu, Eric Li, Franklin Yang, Jordan Boyd-Graber. Eliciting Bias in Question Answering Models through Ambiguity. *Machine Reading for Question Answering at EMNLP 2021*

[W1] **Naveen Raman**, Pedro Rodriguez, Jordan Boyd-Graber. What more can Entity Linking do for Question Answering? *Human And Machine in-the-Loop Evaluation and Learning Strategies at NeurIPS 2020*

Preprints and Working Papers

[P2] Megan Chai*, Cindy Peng*, Gao Mo, **Naveen Raman**, Shannon Pagdon, Fei Fang, Nev Jones, Peggy Swarbrick, and Hong Shen. Large Language Models in Peer-Run Community Behavioral Health Services: Understanding Peer Specialists and Service Users' Perspectives on Opportunities, Risks, and Mitigation Strategies.

[P1] **Naveen Raman**, Ryan Shi, Sean Hudson, Ameesh Kapoor, and Fei Fang. An Extended Study on Restless Multi-Armed Bandits with Global Rewards.

HONORS AND AWARDS

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| NeurIPS Top Reviewer | 2024 |
| ICML Travel Grant (declined) | 2024 |
| University of Maryland Undergraduate Researcher of the Year | 2022 |
| National Science Foundation Graduate Reserach Fellowship (GFRP) | 2022 |
| Churchill Scholarship (fully funded Cambridge MPhil) | 2022 |
| CRA Undergraduate Researcher of the Year Finalist | 2021 |
| Phillip Merrill Presidential Scholar | 2021 |
| Barry Goldwater Scholarship | 2021 |
| Brendan Iribe Scholarship (full tuition scholarship) | 2020 |
| President's Scholarship (4-year scholarship) | 2018 |

PROFESSIONAL SERVICE

Conference Reviewing

Main Conference: NeurIPS (2022,2023, Top Reviewer 2024, 2025), AAAI (2025), ICML (2024,2025),

AAMAS (2024), COLING (2022), AISTATS (2025,2026), EAAMO (2025), CHIL (2025), ICLR (2026)

Workshop: ICML Actionable Interpretability (2025), AAAI Deployed AI (2026)

Organizing

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| NeurIPS Education Program Assistant Chair | July 2025 - Present |
| EAAMO Social Chair | July 2025 - Present |
| MLC Nigeria Volunteer Assistant | October 2023 - Present |
| Machine Learning for Health Roundtable Chair | December 2024 |

Department Service

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| Machine Learning Blog Blog Head Editor | July 2025 - Present |
| Machine Learning Department Masters Admissions Committee | November 2024 - May 2025 |
| Machine Learning Blog Blog Editor | August 2024 - June 2025 |
| Machine Learning Department Social Committee | October 2023 - May 2024 |

Mentorship

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| School of Computer Science <i>Graduate Application Support Program</i> | October 2023 - Present |
| School of Computer Science <i>AI Mentorship Program</i> | October 2023 - Present |
| School of Computer Science <i>Tech Nights</i> | October 2023 - December 2023 |
| Student Community Action <i>Big Sibling</i> | October 2022- May 2023 |
| Maryland Mentors Program <i>Math and Reading Tutor</i> | September 2020-May 2022 |
| College Park Academy <i>Academic Volunteer</i> | September 2018-May 2021 |
| College Mentors for Kids <i>Mentor</i> | January 2021 - May 2021 |

TALKS

RescueLens: LLM-Powered Triage and Action on Volunteer Feedback for Food Rescue
Food Rescue Conference

Assortment Optimization for Patient-Provider Matching
Marketplace Innovations Workshop
Udell Group at Stanford University
Harvard Econ-CS Group
INFORMS Annual Meeting
Rutgers Econ-CS Group

PeerCoPilot: A Language-Model Assistant for Behavioral Health Organizations
Carnegie Mellon FEAT Reading Group
AI-SDM Workshop on AI for Social Impact
Amazon Applied AI Seminar
University of Maryland CLIP Colloquium
Columbia HCI Seminar Series

Global Rewards in Restless Multi-Armed Bandits
Food Rescue Conference
University of Maryland Multi-Agent RL Group
Carnegie Mellon Econ-CS Reading Group
Multi-Agent Learning Seminar
EAAMO Urban Data Science Working Group

Inter-Concept Learning Relationships
Gordon Conference on Cancer Genetics

TEACHING

Teaching Assistant
Advanced Introduction to Machine Learning (10-715), CMU Fall 2025
Organization of Programming Languages (CMSC330), UMD Fall 2019 - Spring 2022
Introduction to Programming via the Web (CMSC122), UMD Spring 2019

Course Facilitator
Algorithms for Interviews (CMSC389O), UMD Spring 2020 - Spring 2022