

Prerna Juneja

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Overview

A **human-computer interaction** researcher with 5+ years of experience in conducting **interdisciplinary research** across high-impact problem domains such as **responsible AI, ethics, and policy**. I combine **AI, data-driven techniques**, and **human-centered design** processes with **large-scale real-world deployments** to understand the risks of A.I. systems and tools, including generative A.I. models.

Research Interests: Responsible AI | Data & AI regulations and Standards | AI Auditing | Human-computer interaction | Designing for trust, transparency, and explainability

Accomplishments and Real-World Impact:

- U.S. Representative Adam Schiff **cited my research in congressional letter**
- **Interviewed by the U.S. House Select Subcommittee staff** about challenges of problematic algorithmic recommendations
- Research recognized by media, notably in **The Seattle Times, The Guardian, Al Jazeera**, etc.
- **Managed and led a team of 10 researchers, designers, and engineers** to design **YouCred**, a fact-checking tool, that is now **deployed at fact-checking organization** Pesacheck

Education

University of Washington

PHD IN INFORMATION SCIENCE

Adviser: Dr. Tanushree Mitra • SSRC PhD Dissertation Fellowship 2020-2021

Seattle, USA

Sep. 2020 - Aug. 2023

Virginia Tech

PHD IN COMPUTER SCIENCE - transferred to University of Washington

Adviser: Dr. Tanushree Mitra

Blacksburg, USA

Aug. 2018 - Jul. 2020

IIIT Delhi

MASTER OF TECHNOLOGY IN COMPUTER SCIENCE (M.TECH. CS)

Adviser: Dr. Ashish Sureka

Delhi, India

Aug. 2013 - May. 2015

Experience

Seattle University

ASSISTANT PROFESSOR, COMPUTER SCIENCE DEPARTMENT

Seattle, USA

Sept 2023-Present

Dataminr

RESEARCH INTERN

- Studied users' needs from search results explanations.

Remote

June 2022-Sept 2022

University of Washington

RESEARCH ASSISTANT

- Conducted audits to understand the role of online algorithms in amplifying misinformation
- Worked with fact-checking organizations to understand their needs and built tools for them

Seattle, USA

Sept 2020-Aug 2023

Information Science Institute, USC

RESEARCH INTERN

- Modeled users who are susceptible to misinformative content on social media platforms.

Remote

May 2020-Aug 2020

Dell EMC

SOFTWARE ENGINEER 2

- Designed & developed eLicense solution that helped EMC to track customer's storage usage & compliance
- Scaled and improved the performance of the user operations
- Supported VMware's VASA2.0 specifications by implementing interfaces to query storage details and perform storage manageability operations

Bengaluru, India

Aug 2015-July 2018

Honors & Awards

- **University of Washington Graduate School Medal Award 2023:** Recognizes a Ph.D. candidate who is tackling a challenge of tremendous social importance through extraordinarily rigorous scholarship. 📄 📄
- **Impact Recognition Award:** ACM CSCW 2022
- **Honourable Mention Award:** ACM CSCW 2022
- **Research cited in congressional letter:** U.S. Representative Adam Schiff cited my Amazon audit research in his congressional letter where he asked Amazon to address the problem of vaccine misinformation 📄
- **Best Paper Honourable Mention Award:** ACM CHI 2021
- **SSRC Dissertation Fellowship 2020:** Supports thesis work on algorithmically curated misinformation
- **CRA-W Grad Cohort Grant 2019:** Received scholarship to attend Grad Cohort workshop
- **Excellence@Dell Bronze Award:** May 2018, July 2017 and Aug 2016
- **Dell Champion Award:** Aug 2018

- **Merit Scholarship:** Awarded during 1st and 3rd year of bachelors for securing second and first position respectively

Publications

Heavily Peer-Reviewed Conference Proceedings

10. **Perna Juneja**, Wenjuan Zhang, Alison Marie Smith-Renner, Hemank Lamba, Joel Tetreault, and Alex Jaimes. Dissecting users' needs for search result explanations. *In Proc. ACM Conference on Human Factors in Computing Systems (CHI 2024)*.
9. Emelia May Hughes, Renee Wang, **Perna Juneja**, Tony W Li, Tanushree Mitra, and Amy X. Zhang. Viblio: Introducing Credibility Signals and Citations to Video-Sharing Platforms. *In Proc. ACM Conference on Human Factors in Computing Systems (CHI 2024)*.
8. **Perna Juneja**, Momen Bhuiyan, and Tanushree Mitra. Assessing enactment of content regulation policies: A post hoc crowd-sourced audit of election misinformation on YouTube. *In Proc. ACM Conference on Human Factors in Computing Systems (CHI 2023)*.
7. **Perna Juneja** and Tanushree Mitra. Human and technological infrastructures of fact-checking. *In Proc. ACM Human Computer Interaction, CSCW 2022*. **Impact Recognition Award, Honourable Mention Award (Top 3% of ACM CSCW papers)**
6. **Perna Juneja**. Identifying, measuring and contesting algorithmically curated misinformation. *In Proc. ACM Human Computer Interaction, CSCW Doctoral Colloquium 2021*
5. **Perna Juneja** and Tanushree Mitra. Auditing E-Commerce Platforms for Algorithmically Curated Vaccine Misinformation. *In Proc. ACM Conference on Human Factors in Computing Systems (CHI 2021)*. **Best Paper Honourable Mention (Top 5% of ACM CHI papers)**
4. Eslam Hussein*, **Perna Juneja*** and Tanushree Mitra. Measuring Misinformation in Video Search Platforms: An Audit Study on YouTube. ***(equal contribution)** *In Proc. ACM Human Computer Interaction 4, CSCW1, Article 48*.
3. **Perna Juneja**, Deepika Ramasubramanian and Tanushree Mitra. Through the Looking Glass: Study of Transparency in Reddit's Moderation Practices. *In Proc. GROUP 2020: ACM Conference on Supporting Group Work*.
2. **Perna Juneja**, Divya Kundra, and Ashish Sureka. Anvaya: An algorithm and case-study on improving the goodness of software process models generated by mining event-log data in issue tracking systems. *In Proceedings of the 40th IEEE Annual Computer Software and Applications Conference (COMPSAC), 2016*.
1. Divya Kundra, **Perna Juneja**, and Ashish Sureka. Vidushi: parallel implementation of alpha miner algorithm and performance analysis on CPU and GPU architecture. *In Proceedings of the International Conference on Business Process Management (BPM), 2016*.

Workshop Papers

3. Emelia Hughes, Renee Wang, **Perna Juneja**, Tanushree Mitra and Amy X. Zhang. Introducing Credibility Signals and Citations to YouTube. *In Information Credibility Workshop at ICWSM 2021*
2. **Perna Juneja** and Tanushree Mitra. Algorithmic nudge: Using XAI frameworks to design interventions. *In CHI 2021 Workshop on Operationalizing Human-centered Perspectives in Explainable AI*
1. **Perna Juneja** and Tanushree Mitra. Investigating the impact of personalization on misinformation present in algorithmically curated content in YouTube. *In RecSys 2020 Workshop on Responsible Recommendation*

Skills

Programming Languages	Python, Core Java, C, C++, Javascript, Lua, Android
Frameworks and Tools	MATLAB, Weka, Spring framework
User research	Interviews, surveys, thematic analysis, stakeholder analysis
Data Analysis and Applied ML	Python: pandas, numpy, matplotlib, Seaborn, sklearn, statsmodels
Relevant Coursework	Data Analytics, Social Computing, Statistics in Research, Machine Learning, Deep Learning

Mentorship

• Lisa Lomidze: M.S. SU: <i>Responsible AI</i>	Fall 2023-Present
• Gauri Narayan Mhetre: B.S. UW Informatics: <i>Fact-checking system project</i>	Fall 2023-Present
• David Xie: B.S. UW Informatics: <i>Fact-checking system project</i>	Fall 2021, Spring 2022
• Alice Zhang: B.S. UW CS: <i>Fact-checking system project</i>	Spring 2022
• Lee Polla: MSIM UW: <i>Fact-checking system project</i>	Fall 2021, Spring 2022
• Benjamin Ye: B.S. UW CS: <i>Fact-checking system project</i>	Summer 2022-Dec 2022
• Louis Leng: B.S. UW Informatics: <i>Fact-checking system project</i>	Summer 2022-Spring 2023
• Vincent Zhiyuan Zhou: B.S. UW CS: <i>Fact-checking system project</i>	Summer 2022
• Ethan Yee: B.S. UW CS: <i>Fact-checking system project</i>	Summer 2022
• Srinidhi Balaram: B.S. UW Informatics: <i>Figma design for fact-checking system project</i>	Summer 2022
• Emelia Hughes: B.S. UW Informatics: <i>YouTube credibility signals and citation study</i>	Fall 2021-Summer 2023
• Renee Wang: B.S. UW CS: <i>YouTube credibility signals and citation study</i>	Fall 2021-Spring 2022
• Hayoung Jung: B.S. UW CS: <i>YouTube geolocation audit</i>	Summer 2021-Fall 2023
• Stephanie L. Zhang: B.S. UW Informatics: <i>Chrome extension to scrape users' YouTube data</i>	2020-2021
• Deepika Ramasubramanian: M.S., Virginia Tech: <i>Reddit transparency study</i>	2018-2019
• Jonathan Alexander: B.S. CS Virginia Tech: <i>Scraping Twitter feed via selenium bots</i>	Fall 2019
• Ankita Khera: B.S. CS Virginia Tech: <i>Scraping data from Amazon</i>	Fall 2019

Invited Talks

April 2024	Towards understanding and defending against online misinformation , guest visit for SI 429 and SI 529, School of Information, University of Michigan, Ann Arbor, MI
April 2022	Problematic Information , guest visit for IMT 598, University of Washington
September 2021	Investigating algorithms and their impacts , School of Information, University of Michigan, Ann Arbor, MI
September 2021	Auditing YouTube for conspiracy theories , Department of Computer Science, Wellesley College, Wellesley, Massachusetts
May 2021	Auditing online platforms for algorithmically curated misinformation , Virginia Tech, Blacksburg, Virginia

Press and Media Coverage

Nov 2023	'Heavy metal detox bath' for kids: Unscientific trend catapults into 'health advice' Logically Facts ↗
Aug 2023	Heard about the borax trend? Jumping onto it is dangerous. Logically Facts ↗
May 2023	Inside the health books on Amazon: Pseudoscience and unsubstantiated remedies. Logically Facts ↗
Jun 2021	The conspiracy and disinformation challenge on e-commerce platforms. Brookings Tech ↗
Mar 2021	COVID-19: Anti-vax book sales surge as sellers urged to add warning tags. Sky News ↗
Jan 2021	Aired on January 29, 2021 at 4:45 AM. King-TV ↗
Jun 2021	Aired on January 29, 2021 at 7:32 AM. KOMO AM ↗
Jan 2021	Aired on January 29, 2021 at 4:53 AM on Fox 13 Seattle. KCPQ-TV ↗
Dec 2021	AmazonSmile donated more than \$40,000 to anti-vaccine groups in 2020. The Guardian ↗
June 2021	How Amazon became an engine for anti-vaccine conspiracy theories. Fast Company ↗
Jan 2021	Amazon algorithms promote vaccine misinformation, UW study says. The Seattle Times ↗
Jan 2021	Amazon's algorithms boost vaccine misinformation, says study. India Times ↗
Jan 2021	Amazon search boosts anti-vax books. The Columbian ↗
Jan 2021	Amazonovi algoritmi promiču antivakcerske dezinformacije. Al Jazeera ↗
Feb 2021	Amazon's search algorithm spreads vaccine disinformation, study finds. The Next Web ↗
Feb 2021	Amazon is a 'marketplace of multifaceted health misinformation,' UW study says. The Daily ↗
Jan 2021	University of Washington researchers say Amazon's algorithms spread vaccine misinformation. Venture Beat ↗
Jan 2021	UW study finds Amazon promotes vaccine lies, especially to already misinformed users. The Spokesman Review ↗
Nov 2020	New study finds YouTube is now suppressing anti-vaccine videos. The Hill ↗
Nov 2020	YouTube's algorithm is steering viewers away from anti-vaccine videos Business Insider ↗
Oct 2020	Fellowship backs Ph.D. student's research on algorithms and misinformation iNews ↗
Sep 2020	SSRC Announces the Recipients of the Social Data Research and Dissertation Fellowships SSRC News ↗