

Sanjana Gautam

HUMAN-AI RESEARCHER

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Education

Pennsylvania State University

PHD IN INFORMATICS, UNDER THE ADVISEMENT OF DR. MARY BETH ROSSON

University Park, PA.

2019 - Present

Shiv Nadar University

B.TECH. IN COMPUTER SCIENCE AND ENGINEERING

Greater Noida, UP.

2015 - 2019

Industry Experience

Dataminr

RESEARCH INTERN, HUMAN AI INNOVATION

New York City, NY (Remote)

Sept 2022 - Dec 2022

- Designed and executed three studies; exploratory card sorting, dairy study and focus group study
- Communicated insights and findings with the stakeholders, aligning with strategic business objectives
- Developed comprehensive needs assessment reports to inform key product development decisions, after collaboration with designers

Dataminr

RESEARCH INTERN, AI ENGINEERING

New York City, NY (Remote)

Sept 2021 - Dec 2021

- Qualitative researcher in the AI Engineering team, driving critical research initiatives and delivering valuable insights
- Designed, executed, and analyzed semi-structured interviews with diverse stakeholders
- Designed survey, collected data and employing advanced analytical techniques to summarize results and uncover meaningful patterns
- Extracted performance insights to optimize workflow

Goldman Sachs

TECHNOLOGY STRATS INTERN, CORPORATE CASH MANAGEMENT

Bengaluru, India

Jan 2019 - May 2019

- Spearheaded the development of a cutting-edge, web-based microservices-driven payment control portal to replace legacy platform.
- Designed and developed an intuitive user interface for the web-based microservice, ensuring seamless functionality and an exceptional user experience.

Academic Experience

Computer and Information Science Department, University of Pennsylvania

RESEARCH ASSISTANT, PENNHCI

Philadelphia, PA.

June 2023 - Present

- Implemented data pipeline to collect over 17,000+ user labelled TikTok videos
- Performed data cleaning, topic modelling, sentiment analysis on the data collected
- Statistically analysed implicit and explicit nature of political data on TikTok using the data collected
- Investigating inclusivity and representation in script generation using OpenAI's ChatGPT and GPT-3.5
- Used prompting techniques like Generated Knowledge, Chain-of-Thought as well as Few-Shot

Crowd AI Lab, Penn State

RESEARCH ASSISTANT

University Park, PA.

May 2023 - Present

- Investigated a AI tool to support creative writing
- Analysed user interviews to capture user feedback on creative writing assistive tool
- Performed thematic analysis on the interview data and extracted design insights

HLT Lab, Penn State

RESEARCH ASSISTANT

University Park, PA.

July 2022 - Present

- Design studies focused on ethical AI practices
- Investigated implicit biases in NLP models (GPT-2, GPT-3.5, GPT-4); identifying nationality-based stereotypes
- Designed interview study for annotators to elicit bias through lived experiences
- Surveyed and cataloged literature in sentiment analysis

College of Information Sciences and Technology, Penn State

RESEARCH ASSISTANT, UNDER DR. PRASENJIT MITRA AND DR. MAHIR AYGUN

University Park, PA.

Jan 2022 - Dec 2022

- Conducted Expert Interviews to elicit expert opinion on challenges in the field of AI education
- Performed thematic analysis on the interview data
- Surveyed and cataloged literature in knowledge elicitation techniques

Supporting Civic Awareness Networks (SCAN) Lab, Penn State

University Park, PA.

RESEARCH ASSISTANT

May 2020 - Dec 2021

- Conducted and analysed user research on crisis response
- Performed user testing on situational awareness tool using interviews, surveys and usability studies
- Collaborated with cross-functional teams to identify research objectives
- Statistically analysed 3,100,000+ tweets to classify fake news and real news

Collaboration and Innovation Lab, Penn State

University Park, PA.

RESEARCHER

Aug 2019 - Present

- Conceived and executed end-to-end research project for peer-based adaptive learning from scoping phase, participant recruitment and designing study plans to method creation and analysis
- Lead user initiative to understand user requirements and inform product development strategies for a cross-functional team
- Managed research projects from scoping phase, method creation, analysis and result summarization
- Evaluated design implications that originate from a geographically distributed community

Skills

- **Programming Languages/Tools** : C; C++; JAVA; Python; R; sklearn
- **Statistical Softwares** : SPSS; Stata
- **Research Methods** : prompting technique; topic modelling; model training; usability testing; qualitative research; interview; focus group; diary study; survey design; user interface design; statistical analysis; adobe suite

Honors & Awards

2023	IST Graduate Student Travel Grant , Pennsylvania State University	State College
2023	Nittany Ai Challenge 2023 Semi-Finalist (ChronoNews) , Pennsylvania State University	State College
2023	Nittany Ai Challenge 2023 Semi-Finalist (ClassCollab) , Pennsylvania State University	State College
2020	Robert Graham Endowment Graduate Fellow , Pennsylvania State University	State College
2019	Robert Graham Endowment Graduate Fellow , Pennsylvania State University	State College
2015	Undergraduate Scholar (Tuition Waiver) , Shiv Nadar University	Greater Noida
2013	National Talent Search Scholar , Government of India	New Delhi

Professional Services

ACM Conferences

Pennsylvania State University

STUDENT VOLUNTEER AND REVIEWER

2020-2023

- Student volunteer at CSCW 2020, CSCW 2021, CSCW 2022, UbiComp 2021, CHI 2023 and FAccT 2023
- It was an enriching experience coordinating and organizing paper sessions item Reviewed papers for various conferences and journals including CHI, CSCW, ISCRAM, IUI and Elsevier.

Graduate Student Organization College of Information Sciences and Technology

Pennsylvania State University

PRESIDENT

2020-2021

- Organizing talks, social events and hackathons.
- To facilitate social, as well as intellectual, peer-to-peer connections here at IST.

HackData- The Data Science Hackathon

Shiv Nadar University

CO-ORGANIZER

Feb 2018

- Co-organized HackData in Shiv Nadar University, Greater Noida. Pan-India participation of > 200 students.

SNU ACM-W Chapter

Shiv Nadar University

CHAIR

Nov. 2017 - Nov. 2018

- (Association for Computing Machinery - Women) Organized tutorials, talks and workshops to promote the presence of women in technology, as part as the founding committee of the SNU ACM-W Chapter

Publications

- **Gautam, S.**, Zhang, X., and Rosson, M.B.. Towards Dynamic Learning: A Framework for Simulating Adaptive Learning Systems . CHI LBW 2024. **(Under Review)**
- **Gautam, S.**, Zhang, X., and Rosson, M.B.. Better Together (or Not) : A Study of Social Learning and Social Leanings. L@S 2024 **(Under Review)**

- Mahomed, Y., Crawford, C., **Gautam, S.**, Friedler, S., and Metaxa, D.. Auditing GPT's Content Moderation Guardrails: Can ChatGPT Write Your Favorite TV Show?. FAccT 2024 (**Under Review**)
- Grace, R., **Gautam, S.**, & Tapia, A. (2023). Continuity planning for public health crises: Designing workplace redundancies for organizational resilience. *Journal of Emergency Management*, 21(6), 523-537.
- Dwaraghanath, R., Majethia, R., & **Gautam, S.** (2023). ECHO: An Automated Contextual Inquiry Framework for Anonymous Qualitative Studies using Conversational Assistants. arXiv preprint arXiv:2312.07576.
- Huang, C. Y., **Gautam, S.**, Brooks, S. M., Lin, Y. F., & Huang, T. H. K. (2023). Inspo: Writing Stories with a Flock of AIs and Humans. arXiv preprint arXiv:2311.16521.
- Pranav Venkit, Mukund Srinath, **Sanjana Gautam**, Saranya Venkatraman, Vipul Gupta, Rebecca Passonneau, and Shomir Wilson. 2023. The Sentiment Problem: A Critical Survey towards Deconstructing Sentiment Analysis. In *Proceedings of the 2023 Conference on Empirical Methods in Natural Language Processing*, pages 13743–13763, Singapore. Association for Computational Linguistics.
- **Gautam, S.** What the Annotator Does Not Know, Can Harm Us. Workshop at CSCW' 23 : Understanding and Mitigating Cognitive Biases in Human-AI Collaboration. (**Workshop Position Paper**)
- **Gautam, S.***, Narayanan Venkit, P.*, Panchanadikar, R.*, Huang, T. H., and Wilson, S. (2023, August). Unmasking Nationality Bias: A Study of Human Perception of Nationalities in AI-Generated Articles. In *Proceedings of the 2023 AAAI/ACM Conference on AI, Ethics, and Society* (pp. 554-565).
- **Gautam, S.**, Rosson, M.B. and Akgun, M. Designing a Research Test-bed for Adaptive Learning Systems that Integrates Metacognition and Social Constructivism. In *Extended Abstracts of the 2023 CHI Conference on Human Factors in Computing Systems* (pp. 1-6).
- Venkit, P. N., **Gautam, S.**, Panchanadikar, R., Huang, T. and Wilson, S. (2023). Nationality Bias in Text Generation. *Proceedings of the 17th Conference of the European Chapter of the Association for Computational Linguistics*.
- **Gautam, S.**, Akgun, M., and Mitra, P. (2022, March). Exploring the challenges of AI experts to inform AI curriculum. In *Proceedings of the 54th ACM Technical Symposium on Computer Science Education V. 2* (pp. 1338-1338).
- Romera, G., & **Gautam, S.** (2022) Parler, Capitol Riots, Alt-Right and Radicalization in Social Media. *ISCRAM Asia Pacific Conference 2022*.
- Grace, R., **Gautam, S.**, and Tapia, A. (2022). Continuity planning in Public-Safety Answering Points during the COVID-19 pandemic. In *Proceedings of the Information Systems for Crisis Response and Management (ISCRAM) Asia Pacific Conference* (pp. 173-180). Melbourne, Australia.
- Romera, G., **Gautam, S.** & Tapia, A. Understanding Twitter's behavior during the pandemic: Fake News and Fear, Poster at *ISCRAM 2021*
- **Gautam, S.**, & Rosson, M.B. (2020).. Exploring Feelings of Student Community across a Geographically Distributed University. *Proceedings of the ACM on Human-Computer Interaction*, 5(CSCW1), 1-16.
- Saurabh, S., & **Gautam, S.** (2019). Modelling and statistical analysis of YouTube's educational videos: A channel Owner's perspective. *Computers & Education*, 128, 145-158.