Eugenia H. Rho

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Virginia Tech Department of Computer Science, Gilbert Place, 220 Gilbert Street, Blacksburg, VA, 24060

Research Interests

Human-Computer Interaction (HCI), Natural Language Processing (NLP), Human-AI Interaction, Statistics, Machine Learning (ML), Computational Social Science, Social Computing

My research lies at the intersection of Natural Language Processing (NLP) and Human-Computer Interaction (HCI). My work aims to advance Computational Social Science (CSS) by using computational linguistics to better understand how AI-mediated systems impact interactions across people and machines.

Education

2015 – 2021	**University of California, Irvine**, Irvine, CA Ph.D. in Informatics Thesis: Design of Online Environments and the Quality of Democratic Discourse At-Scale Committee: Melissa Mazmanian (chair), Judy Olson, Kai Zheng
2007 – 2011	**Columbia University (Columbia College)**, New York, NY BA in Political Science, Honors Candidate, Dean's List

Experience

2021 – present	**Virginia Tech**, Department of Computer Science, Blacksburg, VA Assistant Professor of Computer Science • Director of Society + AI and Language (SAIL) Research Lab • Faculty Affiliate, Center for Human-Computer Interaction • Faculty Affiliate, Sanghani Center for Artificial Intelligence and Data Analytics • Faculty Affiliate, Virginia Tech Center for Autism Research • Faculty Champion, Virginia Tech Center for Autism and NeuroDiversity Opportunities
2020 – 2021	**Stanford University**, Department of Computer Science, Palo Alto, CA NLP Postdoctoral Researcher
2017	Meta (Facebook), Menlo Park, CA Quantitative UX Research Intern
2016	NORC at the University of Chicago, Chicago, IL PhD Data Scientist Intern
2016	University of California, Irvine, Irvine CA Graduate Research Assistant
2013 – 2015	PricewaterhouseCoopers, Seoul, South Korea Associate Consultant
2011 – 2012	Opera Solutions, New York, NY Management Consultant

Funding

| 2023 | Designing AI as a Mental Health Resource for Autistic Adults: Enhancing Therapeutic Approaches with Multimodal Interactions. Role: PI; $45,000, World Health Consortium. |

2023   Designing AI as a Mental Health Resource for Autistic Adults: Enhancing Therapeutic Approaches with Multimodal Interactions. Role: PI; $45,000, World Health Consortium.

2023   Integrating Neurodivergence into the STEM Workforce. 2023, Role: Co-PI; $75,000, Oak Ridge Associated Universities.

2023   EmotionAlze - Empathy-Driven Interactive Human-AI System for Countering Negative-Self Talk for Autistic Individuals. Role: PI; $25,000, Center for Human-Computer Interaction, Virginia Tech.

2021   Predicting Online Groupthink Rhetoric in COVID-19 Health Mandate Discourse. Role: PI; $15,000, Center for Peace Studies and Violence Prevention, Virginia Tech.

2020   Kling Endowed Memorial Fellowship; $2000, University of California, Irvine.

2019   Doctoral Consortium Fellowship; $1565, ACM Conference on Computer Supported Cooperative Work & Social Computing (CSCW).

2018   Roberta Ellen Lamb Memorial Fellowship; $10,000, University of California, Irvine.

2015   Graduate Dean's Recruitment Fellowship; $5,000, University of California, Irvine.

Publications

Journals and Conference Papers

[P16]   Buse Carik, Xiaozheng Wang, Xiaohan Ding, Uma Gunturi, **Eugenia H. Rho**. *Understanding LLM Use Among Neurodivergent Users: Experiences, Challenges, and Workarounds*. ACM Conference on Computer Supported Cooperative Work & Social Computing (CSCW), 2024 (Under Submission).

[P15]   Kaike Ping, James Hawdon, **Eugenia H. Rho**. *Perceiving and Countering Hate: The Role of Identity in Online Responses*. ACM Conference on Computer Supported Cooperative Work & Social Computing (CSCW), 2024 (Under Submission).

[P14]   Kaike Ping, Anisha Kumar, **Eugenia H. Rho**. *Behind the Counter: Exploring the Motivations and Barriers of Online Counterspeech Writing and the Potential for AI-Mediated Assistance*. ACM Transactions on Computer-Human Interaction (TOCHI), 2024 (Under Submission).

[P13]   Xiaohan Ding, Buse Carik, Uma Gunturi, Valerie Reyna, **Eugenia H. Rho**. *Leveraging Prompt-Based Large Language Models: Predicting Pandemic Health Decisions and Outcomes Through Social Media Language*. ACM Conference on Human Factors in Computing Systems (CHI), 2024.

[P12]   M. Lee, K. I. Gero, J. J. Y. Chung, S. B. Shum, V. Raheja, H. Shen, S. Venugopalan, T. Wambsganss, D. Zhou, E. A. Alghamdi, T. August, A. Bhat, M. Z. Choksi, S. Dutta, J. L. C. Guo, N. Hoque, Y. Kim, S. Knight, S. P. Neshaei, A. Shibani, D. Shrivastava, L. Shroff, A. Sergeyuk, J. Stark, S. Sterman, S. Wang, A. Bosselut, D. Buschek, J. C. Chang, S. Chen, M. Kreminski, J. Park, R. Pea, **E. H. Rho**, Z. Shen, P. Siangliulue. *A Design Space for*

*Intelligent and Interactive Writing Assistant*s. ACM Conference on Human Factors in Computing Systems (CHI), 2024.

[P11] Marx B Wang, Md Momen Bhuiyan, **Eugenia H. Rho**, Kurt Luther, Sang Won Lee. *Why Did You Post That GIF? Understanding the Relationship between User Identity and Self-Expression through GIFs on Social Media*. ACM Conference on Computer Supported Cooperative Work & Social Computing (CSCW), 2024.

[P10] Uma Gunturi, Anisha Kumar, Xiaohan Ding, **Eugenia H. Rho***. Understanding the Linguistic Signature of Acts and Recalls of Online Racial Microaggressions through Interpretable NLP*. ACM Conference on Computer Supported Cooperative Work & Social Computing (CSCW), 2024.

[P9] **Eugenia H. Rho**, Maggie Harrington, Yuyang Zhong, Reid Pryzant, Nicholas P. Camp, Dan Jurafsky, Jennifer L. Eberhardt. *Escalated Police Stops of Black Men Are Linguistically and Psychologically Distinct in Their Earliest Moments*. Proceedings of the National Academy of Sciences (PNAS), 2023.

[P8] Xiaohan Ding, Mike Horning, **Eugenia H. Rho**. *Same Words, Different Meanings: Interpretable Predictions of Polarization Trends in Broadcast Media Language and Granger Causal Effects on Online Public Discourse*. AAAI Conference on Web and Social Media (ICWSM), 2023.

[P7] Yao Li, **Eugenia H. Rho**, and Alfred Kobsa. *Cultural Differences in the Effects of Contextual Factors and Privacy Concerns on Users' Privacy Decision on Social Networking Sites*. Journal of Behavior and Information Technology, 2020.

[P6] **Eugenia H. Rho** and Melissa Mazmanian. *Political Hashtags and the Lost Art of Democratic Discourse*. ACM Conference on Human Factors in Computing Systems (CHI), 2020. **Best Paper Honorable Mention**

[P5] **Eugenia H. Rho** and Melissa Mazmanian. *Hashtag Burnout? An Experimental Study Investigating How Political Hashtags Shape Reactions to News Content*. ACM Conference on Computer Supported Cooperative Work & Social Computing (CSCW), 2019.

[P4] Ted Grover, Elvan Bayraktaroglu, Gloria Mark, and **Eugenia Ha Rim Rho**. *Moral and Affective Differences in U.S. Immigration Policy Debate on Twitter*. Journal of Computer Supported Cooperative Work Vol 28, Issue:3-4 (June 2019), p. 317-355.

[P3] **Eugenia H. Rho**, Gloria Mark, and Melissa Mazmanian. *Fostering Civil Discourse Online: Linguistic Behavior in Comments of #MeToo Articles Across Political Perspectives*. ACM Conference on Computer Supported Cooperative Work & Social Computing (CSCW), 2018.

[P2] **Eugenia H. Rho**, Alfred Kobsa, Carolyn Nguyen. *Differences in Online Privacy & Security Attitudes Based on Economic Living Standards: A Global Study of 24 Countries*. Proceedings of the European Conference on Information Systems (ECIS), 2018.

[P1]   **Eugenia H. Rho**, Oliver L. Haimson, Nazanin Andalibi, Melissa Mazmanian, and Gillian R. Hayes. *Class Confessions: Restorative Properties in Online Experiences of Socioeconomic Stigma*. ACM Conference on Human Factors in Computing Systems (CHI), 2017.

Workshop Papers

[W6]   Uma Gunturi, Xiaohan Ding, **Eugenia H. Rho**. *ToxVis: Enabling Interpretability of Implicit vs. Explicit Toxicity Detection Models with Interactive Visualization*. ACM Conference on Human Factors in Computing Systems (CHI), 2023.

[W5]   Rohan Leekha, **Eugenia H. Rho**. *Real Memes In-The-Wild: Explainable Classification of Hateful vs. Non-Hateful Memes*. ACM Conference on Human Factors in Computing Systems (CHI), 2023.

[W4]   **Eugenia H. Rho**. *Quality of Democratic Discourse in the Age of Political Hashtags and Social Media News Consumption*. ACM Conference on Computer Supported Cooperative Work & Social Computing (CSCW), 2020.

[W3]   Krithika Jagannath, **Eugenia H. Rho**. *Intelligent Agents in Everyday Settings: Leveraging a Multi-Methods Approach*. ACM Conference on Human Factors in Computing Systems (CHI), 2018.

[W2]   Yao Li, **Eugenia H. Rho**. *Contextual Impact on SNS Users' Privacy Decisions: A Cross-Cultural Study*. ACM Conference on Human Factors in Computing Systems (CHI), 2018.

[W1]   **Eugenia H. Rho**. *Privacy Norms in the Context of Connected & Self-Driving Cars*. ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW) 2017.

Invited Talks and Guest Lectures

2024   VTL x Speaker Series, Linguistics Seminar, Virginia Tech, February 2024

2023   AI-Driven Language Analysis: Predicting Real-World Outcomes in Public Health Trends and Law Enforcement Practices, Sanghani Center for Artificial Intelligence & Data Analytics, Virginia Tech, December, 2023

2023   EmotionAIze: Coping with Negative-Self Talk for Autistic Individuals Through Empathy-Driven LLM Interactions, Virginia Tech Center of Autism Research (VTCAR), November, 2023

2023   Words Matter:How Language Choices Predict Societal Trends and Outcomes in Media, Health and Policing, Johns Hopkins Center for Language and Speech Processing (CLSP) Seminar, Johns Hopkins CS NLP Group, Johns Hopkins Whiting School of Engineering, November 2023 (link)

2023   Supporting Mental Health in Neurodiverse Communities: Enhancing Large Language Model Accessibility through Multimodal Human-AI Interactions, Institute for Creativity, Arts, & Technology (ICAT) Playdate, Virginia Tech, October 2023 (link)

2023   Artificial Intelligence @Internet Archive: Research in the Age of Artificial Intelligence, Internet Archive, October 2023

2021   Influence of Officer Speech in Traffic Stop Outcomes for Black Drivers. Center for Human-Computer Interaction, Department of Computer Science, Virginia Tech (Host: Mike Horning)

2021   Design of Online Environments and the Quality of Democratic Discourse At-Scale. Department of Computer Science, Stanford University, Human-Computer Interaction Lecture: People, Computers & Design Seminar (Host: Michael Bernstein) ([link](#))

2020   Department of Computer Science, Virginia Tech

2020   Human Centered Design & Engineering, University of Washington

2020   School of Information, George Mason University

2019   Understanding Consequences of Brevity in Online Communication Through a Controlled Experiment with Social Media Users. Invited guest lecture for Critical Writing on Information Technology (INF 131), Irvine, CA.

2017   Usability of Interactive Systems. Invited Guest lecture for Human Computer Interaction (INF 131), Irvine, CA.

2017   Motivations and Barriers in Using Facebook Live Across Closed Mental Health Support Groups on Facebook. Invited talk for KAIST Interaction (KIX) Lab, Korea Advanced Institute of Science and Technology, Daejeon, South Korea.

Selected Press and Interviews

May 2024   AI Tool Predicts Whether Online Health Misinformation Will Cause Real-World Harm, Scientific American

May 2024   Study Traces an Infectious Language Epidemic, Virginia Tech News

Feb 2024   Be Careful What You Feed Your Head, Forbes

Nov 2023   AI—the Good, the Bad, and the Scary, Virginia Tech Engineering News

Aug 2023   Two Networks, Two Realities, One Big Problem, Virginia Tech News

Jun 2023   New Study: Officers' First Communication with Black Drivers Can Determine Traffic Stop Outcome, NPR Atlanta

Jun 2023   CNN Tonight: Interview with Eugenia Rho on Police Escalation, CNN

Jun 2023   A Study Found a Racial Bias During Police Traffic Stops and Police Orders, KCBS Radio

Jun 2023   Study: Officer's First 45 Words in Traffic Stop Could Predict Outcome, Scripps News

May 2023   For Black Drivers, a Police Officer's First 45 Words Are a Sign of What's to Come, NPR Radio

Dec 2019   Political Hashtags Make People Less Likely to Believe the News, Radio New Zealand

Dec 2019   Hashtag Fatigue: How #Metoo Turns People off From the News, Newsweek Japan

Nov 2019   How Political Hashtags Make Discussion More Partisan, KCBS Radio

Nov 2019   Hashtag Haven: Why People Distrust Social Media Clickbait, Yahoo Finance

Nov 2019	Political Hashtags Like #Metoo and #Blacklivesmatter Make People Less Likely to Believe the News, The Conversation
Nov 2019	Political Hashtags Like #Metoo and #Blacklivesmatter Make Some People Doubt the Stories They're Attached To, Nieman Journalism Lab, Harvard University

Teaching Experience

Instructor, Virginia Tech, Department of Computer Science

Spring 2024	CS 3724 Introduction to Human-Computer Interaction
Fall 2023	CS 5914 Human AI Interaction Powered by Large Language Models
Spring 2023	CS 6724 Human AI Interaction
Spring 2022	CS 5984 Computational Social Science

Teaching Assistant, University of California, Irvine, Department of Informatics

Summer 2020	INF 288 Master of Human-Computer Interaction & Design Capstone Project
Fall 2019	INF 281 User Needs Analysis (38 students)
Summer 2019	ICS 139 Critical Writing on Information Technology (41 students)
Spring 2018	ICS 5 Global Disruption & Information Technology (249 students)
Spring 2017	ICS 166 Game Design (30 students)
Winter 2017	INF 131 Human Computer Interaction (197 students) Led a 1-hour weekly discussion seminar with 80 students
Fall 2016	INF 131 Human Computer Interaction (119 students) Led two 1-hour weekly discussion seminars with 60 students in each section

Service

Academic Service

2023	Search Committee, Virginia Tech Computer Science
2022	Search Committee, Virginia Tech Computer Science
2021	Graduate Admissions Committee, Virginia Tech Computer Science

Grant Review

2022 - 2024	NSF Panel

Program Committee (Associate Chair)

2022, 2024	ACM Conference on Computer Supported Cooperative Work (CSCW)
2022	Conference on Empirical Methods in Natural Language Processing (EMNLP)

2020	ACM Conference on Human Factors in Computing Systems (CHI) Late Breaking Work

Paper Reviewer

2016 –2023	ACM Conference on Computer Supported Cooperative Work (CSCW)
2017– 2023	ACM Conference on Human Factors in Computing Systems (CHI)
2021	AAAI Conference on Web and Social Media (ICWSM)
2021	Proceedings of the European Conference on Information Systems (ECIS)
2018	ACM Designing Interactive Systems Conference (DIS)

Student Volunteer

2018	ACM Conference on Human Factors in Computing Systems (CHI)
2017	ACM Conference on Computer Supported Cooperative Work (CSCW)

Member

2015 – Present	ACM Special Interest Group on Computer-Human Interaction
2020 – Present	Association for Computational Linguistics

Advising and Mentorship

2021	Faculty Panelist for ACM Computer-Human Interaction Mentoring (CHIMe) Symposium Workshop
2021	Faculty Research Talk, Graduate Student Orientation, Virginia Tech
2016 – Present	Women in Information & Computer Sciences (WICS) at UC Irvine
2016 –2017	"Explore ICS Program" – a 5-month mentorship program for introducing female undergraduate/undeclared students to Information & Computer Science (ICS) majors as part of a campus-wide effort to increase women and underrepresented minorities in the ICS field
2017	Panelist, Internship Experience with Tech Industries, UCI Informatics
2017	Graduate Student Panelist, Orientation for Incoming PhD Students at UCI Informatics
2016	Treasurer, Informatics Graduate Student Association (IGSA)

Student Advising

2021 – Present	**Graduate Advisees at Virginia Tech** Xiaohan Ding (Ph.D., Computer Science) Kaike Ping (Ph.D., Computer Science) Buse Carik (Ph.D., Computer Science)

Lance Wilhelm (Ph.D., Computer Science)

Xiaozheng Wang (Ph.D., Computer Science)

Taufiq Daryanto (Ph.D., Computer Science)

Sophia Stil (M.S., Computer Science)

Anisha Kumar (M.S., Computer Science)

Uma Gunturi (M.S., Computer Science), Torgersen Research Excellence Award Finalist,
currently at IBM Research

Rohan Leekha (M.S., Computer Science),
currently at MIT Lincoln Laboratory

Samridhi Roshan (B.S., Computer Science)

Eunice Hong (B.S., Computer Science)

2021 – Present   **Thesis Committee**

Swanand Vaishampayan (Ph.D., Computer Science)

Sukrit Venkatagiri (Ph.D., Computer Science)

Bill Ingram (Ph.D., Computer Science)

Aman Ahuja (Ph.D., Computer Science)

Satvik Chekuri (Ph.D., Computer Science)

Anirban Mukhopadhyay Ph.D., Computer Science)

Marx Wang (M.S., Computer Science)

Muskan Gupta (M.S., Computer Science)

Lucas Franke (M.S., Computer Science)

Hulya Dogan (M.S., Computer Science)