Skyler Hallinan

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Education

University of Southern California *Los Angeles, CA*
Ph.D. in Computer Science June 2028 (expected)
Advisor: Xiang Ren

University of Washington *Seattle, WA*
M.S. in Computer Science (GPA: 3.99) June 2024
Advisor: Yejin Choi

B.S. in Computer Science, Departmental Honors, Cum Laude (GPA: 3.86) June 2021
Advisor: Yejin Choi

Invited Talks

USC ISI Seminar (Los Angeles, CA) *April 2025*
"The Surprising Effectiveness of Membership Inference with Simple N-Gram Metrics" [video]

Qualcomm (San Diego, CA) *Nov 2024*
Joint Talk with Jillian Fisher: "Small but Mighty: Empowering Small Language Models to Outperform Their Larger Counterparts"

Publications

* denotes equal contributions

Google Scholar: https://scholar.google.com/citations?user=mO_tZ94AAAAJ
Semantic Scholar: https://www.semanticscholar.org/author/Skyler-Hallinan/1474550731

Preprints

[P1] **Skyler Hallinan**, Thejas Venkatesh, Xiang Ren, , Sai Praneeth Karimireddy, Ashwin Paranjape, Yuhao Zhang, and Jack Hessel. *"OpaqueToolsBench: Learning Nuances of Tool Behavior Through Interaction"*. In submission to ICLR 2026

Conference Papers

[C12] Jaehun Jung, **Skyler Hallinan***, Seungju Han*, Ximing Lu*, David Acuna, Shrimai Prabhumoye, Mostafa Patwary, Mohammad Shoeybi, Bryan Catanzaro, and Yejin Choi. *"Prismatic Synthesis: Gradient-based Data Diversification Boosts Generalization in LLM Reasoning"*. To appear at NeurIPS, 2025. [pdf]

[C11] **Skyler Hallinan**, Jaeuhun Jung, Melanie Sclar, Ximing Lu, Abhilasha Ravichander, Sahana Ramnath, Yejin Choi, Sai Praneeth Karimireddy, Niloofar Mireshghallah, and Xiang Ren. *"The Surprising Effectiveness of Membership Inference with Simple N-Gram Metrics"*. To appear at CoLM, 2025. [pdf]s

[C10] Sahana Ramnath, Anurag Mudgil, Brihi Joshi, **Skyler Hallinan**, and Xiang Ren. *"Amulet: Putting Complex Multi-Turn Conversations on the Stand with LLM Juries"*. To appear at EMNLP, 2025. [pdf]

[C9] Ximing Lu, Melanie Sclar, **Skyler Hallinan**, Niloofar Mireshghallah, Jiacheng Liu, Seungju Han, Allyson Ettinger, Liwei Jiang, Khyathi Chandu, Nouha Dziri, and Yejin Choi. *"AI as Humanity's Salieri: Quantifying Linguistic Creativity of Language Models via Systematic Attribution of Machine Text against Web Text"*. ICLR, 2025. [pdf]

Oral Presentation - Top 1.8% of Accepted Papers; **Media coverage by Science**

[C8] **Skyler Hallinan***, Jillian Fisher*, Ximing Lu, Mitchell Gordon, Zaid Harchaoui, and Yejin Choi. *"StyleRemix: Interpretable Authorship Obfuscation via Distillation and Perturbation of Style Elements"*. EMNLP, 2024. [pdf]

[C7] Sahana Ramnath, Brihi Joshi, **Skyler Hallinan**, Ximing Lu, Liunian Harold Li, Aaron Chan, Jack Hessel, Yejin Choi, and Xiang Ren. *"Tailoring Self-Rationalizers with Multi-Reward Distillation."* ICLR, 2024. [pdf]

[C6] **Skyler Hallinan**, Faeze Brahman, Ximing Lu, Jaehun Jung, Sean Welleck, and Yejin Choi. *"STEER: Unified Style Transfer with Expert Reinforcement."* EMNLP (Findings), 2023. [pdf]

Oral Presentation at the Third Workshop on Novel Ideas in Learning-to-Learn through Interaction (NILLI)

[C5] Aman Madaan, Niket Tandon, Prakhar Gupta, **Skyler Hallinan**, Luyu Gao, Sarah Wiegreffe, Uri Alon, Nouha Dziri, Shrimai Prabhumoye, Yiming Yang, Shashank Gupta, Bodhisattwa Prasad Majumder, Katherine Hermann, Sean Welleck, Amir Yazdanbakhsh, Peter Clark. *"Self-Refine: Iterative Refinement with Self-Feedback."* NeurIPS, 2023. [pdf]

Top 100 most-cited AI papers of 2023 (#45)

[C4] Ximing Lu, Faeze Brahman, Peter West, Jaehun Jang, Khyathi Chandu, Abhilasha Ravichander, Lianhui Qin, Prithviraj Ammanabrolu, Liwei Jiang, Sahana Ramnath, Nouha Dziri, Jillian Fisher, Bill Yuchen Lin, **Skyler Hallinan**, Xiang Ren, Sean Welleck and Yejin Choi. *"Inference-Time Policy Adapters (IPA): Tailoring Extreme-Scale LMs without Fine-tuning."* EMNLP, 2023. [pdf]

[C3] **Skyler Hallinan**, Alisa Liu, Yejin Choi, and Maarten Sap. *"Detoxifying Text with MaRCo: Controllable Revision with Experts and Anti-Experts."*. ACL, 2023. [pdf]

[C2] Jiacheng Liu, **Skyler Hallinan**, Ximing Lu, Pengfei He, Sean Welleck, Hannaneh Hajishirzi, and Yejin Choi. *"Rainier: Reinforced Knowledge Introspector for Commonsense Question Answering."* EMNLP, 2022. [pdf]

[C1] Saadia Gabriel, **Skyler Hallinan**, Maarten Sap, Pemi Nguyen, Franziska Roesner, Eunsol Choi, and Yejin Choi. *"Misinfo Reaction Frames: Reasoning about Readers Reactions to News Headlines."* ACL, 2022. [pdf]

Media Coverage

Science Dec, 2024
AI writing is improving, but it still cant match human creativity [link]

Paul G. Allen School of Computer Science & Engineering Jun, 2021
"Every single one of you has what it takes to do great things": A tribute to the Allen School Class of 2021 [link]

Paul G. Allen School of Computer Science & Engineering Dec, 2020
Six Allen School undergraduates recognized for excellence in research [link]

Research Experience

INK Lab, University of Southern California *Aug 2024 – Present*
Graduate Research Assistant, Advisor: Xiang Ren Seattle, WA

xlab, Paul G. Allen School of Computer Science & Engineering *Sep 2020 – Aug 2024*
Undergraduate and Graduate Research Assistant, Advisor: Yejin Choi Seattle, WA

H2Lab, Paul G. Allen School of Computer Science & Engineering *Jun 2021 – Dec 2021*
Undergraduate Research Assistant, Advisor: Hannaneh Hajishirzi Seattle, WA

Industry Experience

Samaya AI *May 2025 – Aug 2025*
Research Intern Mountain View, CA

- Led project on improving language models' tool-use capabilities in real-world environments where tools are underspecifed or hard to disambiguate

Siri Web Answers Team, Apple *Aug 2023 – Jan 2024*
AI/ML Research Intern Seattle, WA

- Led project on improving the citation-generating capabilities of language models, by creating a machine-generated, question-answering dataset with citations to be used as instruction tuning data

AWS CodeWhisperer, Amazon *Apr 2023 – Jul 2023*
Applied Scientist Intern New York, NY

- Led project on a controlled decoding framework for code generation with intermediate, approximate evaluation, improving performance with state-of-the-art models without any additional training

Awards and Honors

Anneberg Graduate Fellowship granted by Viterbi School of Engineering *2024*
Viterbi School of Engineering, University of Southern California Los Angeles, CA

- Selected for a highly competitive, merit-based fellowship recognizing academic excellence and potential for leadership in engineering research.

Outstanding Senior Award *2021*
Paul G. Allen School of Computer Science and Engineering, University of Washington Seattle, WA

- One of three graduating seniors out of 450 chosen based on exceptional academic performance, significant contribution to the advancement of knowledge, and demonstrated leadership potential and good citizenship.

Dean's Medal Nomination *2021*
College of Arts & Sciences, University of Washington Seattle, WA

- Nominated for the 2021 College of Arts & Sciences Dean's Medal, awarded to the top graduating senior in the department

Levinson Emerging Scholar *2020*
University of Washington Seattle, WA

- Awarded to talented and highly motivated upperclassmen pursuing creative and advanced STEM research

Stratos–Stephen Endowed Scholar *2019*
University of Washington Seattle, WA

- Competitive scholarship that supports engineering students pursuing advanced research

Undergraduate Research Conference Travel Award *2019*
University of Washington Seattle, WA

- Awarded competitive travel scholarship to attend and present at conference (IEEE VIS 2019)

Robert B. Rodal Endowed Scholar *2018*
University of Washington Seattle, WA

- Merit-based scholarship for junior students in engineering

Reviewing

Reviewer for NeurIPS *2025 – Present*
Reviewer for CoLM *2025 – Present*
Reviewer for ACL Rolling Review *2023 – Present*

Teaching

Teaching Assistant, **CSE 517: (Graduate) Natural Language Processing** *Winter 2024*
University of Washington; Instructor: Yejin Choi Seattle, WA

Head Teaching Assistant, **CSE 573: (Graduate) Introduction to Artificial Intelligence** *Winter 2023*
University of Washington; Instructor: Hannaneh Hajishirzi Seattle, WA

Teaching Assistant, **CSE 473: Introduction to Artificial Intelligence** *Spring 2021 – Autumn 2023*
University of Washington, Instructor(s): Hannaneh Hajishirzi, Luke Zettlemoyer Seattle, WA

Teaching Assistant, **CSE 421: Introduction to Algorithms** *Winter 2020*
University of Washington, Instructor: Paul Beame Seattle, WA

Service

Undergraduate Research Leader *2020-2022*
University of Washington Undergraduate Research Program Seattle, WA

- Introduced and encouraged undergraduate research by presenting at seminars and academic events

"Big" (Mentor) *2020-2022*
University of Washington ACM Big/Little Mentorship Program Seattle, WA

- Mentored computer science undergraduates, providing internship help, career planning, and course advice

Other Publications

Conference Papers

[1] **S. Hallinan**, J. Buszkiewicz, C. Rose, and A. Drewnowski, "Ultra-processed Foods are Needed for Nutrient Adequate Diets: Linear Programming Analyses of the Seattle Obesity Study", Nutrients 2021

Workshop Papers

[2] A. T. Chen, J. H. Chang, **S. Hallinan**, and D. C. Mohr, "Mapping User Trajectories: Using Participant Flows to Examine Behavior and Outcomes in Digital Health Intervention Data", 2019 IEEE Workshop on Visual Analytics in Healthcare (VAHC)