Skyler Hallinan

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EDUCATION

University of Southern California

Ph.D. in Computer Science

Los Angeles, CA June 2028 (expected)

Advisor: Xiang Ren

University of Washington

Seattle, WA M.S. in Computer Science (GPA: 3.98) June 2024

Advisor: Yejin Choi

University of Washington

Seattle, WA

B.S. in Computer Science, Departmental Honors, Cum Laude (GPA: 3.86)

June 2021

Advisor: Yejin Choi

Publications

Preprints

[P1] 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 Linquistic Creativity of Language Models via Systematic Attribution of Machine Text against Web Text". Submitted to ICLR, 2025. [pdf]

Conference Papers

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

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

[C3] Skyler Hallinan, Alisa Liu, Yejin Choi, and Maarten Sap. "Detoxifying Text with MaRCo: Controllable Revision with Experts and Anti-Experts." In Proceedings of ACL (Short), 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." In Proceedings of EMNLP, 2022. [pdf]

^{*} denotes equal contributions

[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." In Proceedings of ACL, 2022. [pdf]

RESEARCH EXPERIENCE

INK Lab, University of Southern California

Graduate Research Assistant, Advisor: Xiang Ren

Aug 2024 – Present Seattle, WA

xlab, Paul G. Allen School of Computer Science & Engineering

Undergraduate and Graduate Research Assistant, Advisor: Yejin Choi

Sep 2020 - Aug 2024

Seattle, WA

H2Lab, Paul G. Allen School of Computer Science & Engineering

Undergraduate Research Assistant, Advisor: Hannaneh Hajishirzi

Jun 2021 – Dec 2021 Seattle, WA

Industry Experience

Web Answers Team, Apple

AI/ML Research Intern

Aug 2023 – Jan 2024 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, Supervisor: Xiaofei Ma

Seattle, WA

• 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

Bloomberg

Jun 2021 - Aug 2021

Software Engineering Intern, BLAW Search

New York, NY

• Developed and implemented two novel, zero-shot classification approaches for short text using LEGAL-BERT, achieving 67% performance on the test set (accuracy) compared to human annotators

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 juniors and seniors 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

University of Washington

2019

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 ACL Rolling Review

November 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 University of Washington; Instructor: Hannaneh Hajishirzi

Winter 2023 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, <u>Instructor: Paul Beame</u>

Seattle, WA

SERVICE

Undergraduate Research Leader

2020-2022

University of Washington Undergraduate Research Program

Seattle, WA

• Presented at freshman seminars and other events to advocate for and spread awareness of undergraduate research

"Big" (Mentor)

2020-2022

University of Washington ACM Big/Little Mentorship Program

Seattle, WA

• Mentored undergraduate computer science students, 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)