

ORION WELLER

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EDUCATION

Johns Hopkins University

Ph.D. in Computer Science

Center for Language and Speech Processing

Advisors: Benjamin Van Durme and Dawn Lawrie

2021 – Present

GPA: 4.0/4.0

Brigham Young University

Bachelor of Science, Summa Cum Laude (Top 1%)

Majors: Computer Science, Statistics; Minor in Mathematics

Advisors: Kevin Seppi and Quinn Snell

2017 – 2021

GPA: 4.0/4.0

AWARDS

- NSF Graduate Research Fellowship, 2022
- DoD NDSEG Fellowship (declined), 2022
- CRA Outstanding Undergraduate Researcher in North America Award, 2021
- Fulbright Fellowship Semi-Finalist, 2021
- NSF Graduate Research Fellowship Honorable Mention, 2021
- Goldwater Scholarship, 2020

INDUSTRY EXPERIENCE

Samaya AI

PhD Intern, with Jack Hessel, Ashwin Paranjape, and Yuhao Zhang

Summer 2024

Allen Institute for Artificial Intelligence (AI2)

Research Intern, with Luca Soldaini, Kyle Lo, and Arman Cohan

Summer 2023

Apple

Machine Learning Intern in AI/ML, with Matthias Sperber

Summers 2020, 2021

Allen Institute for Artificial Intelligence (AI2)

Research Intern, with Matt Gardner and Matt Peters

Winter 2020

Qualtrics

Software Engineer Intern

Summer 2019

Adobe

Student Researcher, with Ilya Reznik and Chris Challis

Fall 2018

PUBLICATIONS

- [1] **Orion Weller**, Benjamin Van Durme, Dawn Lawrie, Ashwin Paranjape, Yuhao Zhang, Jack Hessel, “Promptriever: Instruction-Trained Retrievers Can Be Prompted Like Language Models,” in *ArXiv*, 2024.
- [2] **Orion Weller**, Benjamin Chang, Sean MacAvaney, Kyle Lo, Arman Cohan, Benjamin Van Durme, Dawn Lawrie, Luca Soldaini, “FollowIR: Evaluating and Teaching Information Retrieval Models to Follow Instructions,” in *ArXiv*, 2024.

- [3] Jeffrey Cheng, Marc Marone, **Orion Weller**, Dawn Lawrie, Daniel Khashabi, Benjamin Van Durme, “Dated Data: Tracing Knowledge Cutoffs in Large Language Models,” in *Conference on Language Models (CoLM)*, 2024.
- [4] Brennon Brimhall, **Orion Weller**, Matthew Green, Ian Miers, “A Waterlog for Detecting and Tracing Synthetic Text from Large Language Models,” in *Cryptology ePrint Archive*, 2024.
- [5] Abe Bohan Hou, **Orion Weller**, Guanghui Qin, Eugene Yang, Dawn Lawrie, Nils Holzenberger, Andrew Blair-Stanek, Benjamin Van Durme, “CLERC: A Dataset for Legal Case Retrieval and Retrieval-Augmented Analysis Generation,” in *ArXiv*, 2024.
- [6] James Mayfield, Eugene Yang, Dawn Lawrie, Sean MacAvaney, Paul McNamee, Douglas W Oard, Luca Soldaini, Ian Soboroff, **Orion Weller**, Efsun Kayi, Kate Sanders, Marc Mason, Noah Hibbler, “On the Evaluation of Machine-Generated Reports,” in *47th International ACM SIGIR Conference on Research and Development in Information Retrieval (SIGIR 2024)*, 2024.
- [7] Nathaniel Weir, Muhammad Khalifa, Linlu Qiu, **Orion Weller**, Peter Clark, “Learning to Reason via Program Generation, Emulation, and Search,” in *ArXiv*, 2024.
- [8] Dongwei Jiang, Jingyu Zhang, **Orion Weller**, Nathaniel Weir, Benjamin Van Durme, Daniel Khashabi, “Self-[In]correct: LLMs Struggle with Refining Self-Generated Responses,” 2024.
- [9] Nathaniel Weir, Kate Sanders, **Orion Weller**, Shreya Sharma, Dongwei Jiang, Zhengping Zhang, Bhavana Dalvi Mishra, Oyvind Tafjord, Peter Jansen, Peter Clark, “Enhancing Systematic Decompositional Natural Language Inference Using Informal Logic,” in *Empirical Methods in Natural Language Processing (EMNLP)*, 2024.
- [10] **Orion Weller**, Dawn Lawrie, Benjamin Van Durme, “NevIR: Negation in Neural Information Retrieval,” in *European Chapter of the Association for Computational Linguistics (EACL)*, 2024.
- [11] **Orion Weller**, Kyle Lo, David Wadden, Dawn Lawrie, Benjamin Van Durme, Arman Cohan, Luca Soldaini, “When do Generative Query and Document Expansions Fail? A Comprehensive Study Across Methods, Retrievers, and Datasets,” in *Findings of the European Chapter of the Association for Computational Linguistics (EACL)*, 2024.
- [12] **Orion Weller**, Marc Marone, Nathaniel Weir, Dawn Lawrie, Daniel Khashabi, Benjamin Van Durme, ““According to...” Prompting Language Models Improves Quoting from Pre-Training Data,” in *European Chapter of the Association for Computational Linguistics (EACL)*, 2024.
- [13] **Orion Weller**, Aleem Khan, Nathaniel Weir, Dawn J Lawrie, Benjamin Van Durme, “Defending Against Poisoning Attacks in Open-Domain Question Answering,” in *Findings of the European Chapter of the Association for Computational Linguistics (EACL)*, 2024.
- [14] James Mayfield, Eugene Yang, Dawn Lawrie, Samuel Barham, **Orion Weller**, Marc Mason, Suraj Nair, Scott Miller, “Synthetic Cross-language Information Retrieval Training Data,” in *ArXiv*, 2023.
- [15] Samuel Barham, **Orion Weller**, Michelle Yuan, Kenton Murray, Mahsa Yarmohammadi, Zhengping Jiang, Siddharth Vashishtha, Alexander Martin, Anqi Liu, Aaron Steven White, “MegaWika: Millions of Reports and their Sources across 50 Diverse Languages,” in *ArXiv*, 2023.
- [16] Kangda Wei, Dawn J Lawrie, Benjamin Van Durme, Yunmo Chen, **Orion Weller**, “When Do Decompositions Help for Machine Reading?” In *Empirical Methods in Natural Language Processing (EMNLP)*, 2023.
- [17] **Orion Weller**, Marc Marone, Vladimir Braverman, Dawn Lawrie, Benjamin Van Durme, “Pre-trained Models for Multilingual Federated Learning,” in *North American Chapter of the Association for Computational Linguistics (NAACL)*, 2022.

- [18] **Orion Weller**, Kevin Seppi, Matt Gardner, “When to Use Multi-Task Learning vs Intermediate Fine-Tuning for Pre-Trained Encoder Transfer Learning,” in *Association of Computational Linguistics (ACL)*, 2022.
- [19] **Orion Weller**, Matthias Sperber, Telmo Pires, Hendra Setiawan, Christian Gollan, Dominic Telaar, Matthias Paulik, “Speech Translation for Code-Switched Speech,” in *Findings of the Association of Computational Linguistics (ACL)*, 2022.
- [20] Wilson Fearn, **Orion Weller**, Kevin Seppi, “Exploring the Relationship Between Algorithm Performance, Vocabulary, and Run-Time in Text Classification,” in *North American Chapter of the Association for Computational Linguistics (NAACL)*, 2021.
- [21] **Orion Weller**, Matthias Sperber, Christian Gollan, Joris Kluivers, “Streaming Joint Speech Translation and Transcription,” in *European Chapter of the Association for Computational Linguistics (EACL)*, 2021.
- [22] **Orion Weller**, Luke Sagers, Carl Hanson, Quinn Snell, Michael Barnes, Shannon Tass, “Predicting Suicidal Thoughts and Behavior among Adolescents using the Risk and Protective Factor Framework: a Large-Scale Machine Learning Approach,” in *Plos One*, 2021.
- [23] **Orion Weller**, Nicholas Lourie, Matt Gardner, Matthew Peters, “Learning from Task Descriptions,” in *Empirical Methods in Natural Language Processing (EMNLP)*, 2020.
- [24] **Orion Weller**, Jordan Hildebrandt, Ilya Reznik, Christopher Challis, E. Shannon Tass, Quinn Snell, Kevin Seppi, “You Don’t Have Time to Read This: an Exploration of Document Level Reading Time Prediction,” in *Association of Computational Linguistics (ACL)*, 2020.
- [25] **Orion Weller**, Nancy Fulda, Kevin Seppi, “Can Humor Prediction Datasets be used for Humor Generation? Humorous Headline Generation via Style Transfer,” in *Second Workshop on Figurative Language Processing @ ACL*, 2020.
- [26] **Orion Weller**, Kevin Seppi, “The rJokes Dataset: a Large Scale Humor Collection,” in *Language Resources and Evaluation (LREC)*, 2020.
- [27] **Orion Weller**, Kevin Seppi, “Humor Detection: a Transformer Gets the Last Laugh,” in *Empirical Methods in Natural Language Processing (EMNLP)*, 2019.

SKILLS

Languages	English (native), Portuguese (intermediate), French (basic)
Programming Languages	Python, C++, R, Javascript, Golang, Java, OCaml, SQL

SERVICE

Workshop Organizer

- Scholarly Document Processing (SDP) Workshop at ACL, 2024
- Mid-Atlantic Student Colloquium on Speech, Language and Learning, 2022-2024

Teaching

- EN.500.111: Reasoning with ChatGPT, Johns Hopkins University, Fall 2023
- After School Coding Instructor for Elementary School with Code in the Schools, 2021-2022

Program Committee Member

- 2024: ARR, NeurIPS, CoLM, LLM4Eval
- 2023: ACL, EMNLP, ARR, NeurIPS
- 2022: ACL Rolling Review (ARR)
- 2021: ACL Rolling Review, ACL, EMNLP, NAACL (secondary)