ORION WELLER

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EDUCATION

Johns Hopkins University   08/2021 – 05/2026 (expected)
Ph.D. in Computer Science   GPA: 4.0/4.0
Center for Language and Speech Processing
Advisors: Benjamin Van Durme and Dawn Lawrie

Brigham Young University   08/2017 – 04/2021
Bachelor of Science, Summa Cum Laude (Top 1%)   GPA: 4.0/4.0
Majors: Computer Science, Statistics; Minor in Mathematics

AWARDS

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

INDUSTRY EXPERIENCE

Google DeepMind	*with* Jinhyuk Lee, Michael Boratko, Iftekhar Naim	2025
Samaya AI	*with* Jack Hessel, Ashwin Paranjape, Yuhao Zhang	2024
Allen Institute for AI (AI2)	*with* Luca Soldaini, Kyle Lo, Arman Cohan	2023
Apple	*with* Matthias Sperber	2020, 2021
Allen Institute for AI (AI2)	*with* Matt Gardner, Matt Peters	2020

PUBLICATIONS

[1] **Orion Weller**, Kathryn Ricci, Eugene Yang, Andrew Yates, Dawn Lawrie, Benjamin Van Durme, "Rank1: Test-time compute for reranking in information retrieval," 2025.

[4] **Orion Weller**, Benjamin Chang, Mahsa Yarmohammadi, Sam Barham, Sean MacAvaney, Arman Cohan, Luca Soldaini, Benjamin Van Durme, Dawn Lawrie, "mFollowIR: a Multilingual Benchmark for Instruction Following," *ECIR*, 2025 **Honorable Mention Award (Top 8)**.

[5] Benjamin Warner, Antoine Chaffin, Benjamin Clavié, **Orion Weller**, Oskar Hallström, Said Taghadouini, Alexis Gallagher, Raja Biswas, Faisal Ladhak, Tom Aarsen, Nathan Cooper, Griffin Adams, Jeremy Howard, Iacopo Poli, "Harder, Better, Faster, Longer: A Modern Bidirectional Encoder for Fast, Memory Efficient, and Long Context Finetuning and Inference," *ACL*, 2025.

[6] Kenneth Enevoldsen, Isaac Chung, Imene Kerboua, Márton Kardos, ... Sara Hooker, Chenghao Xiao, Vaibhav Adlakha, **Orion Weller**, Siva Reddy, Niklas Muennighoff, "MMTEB: Massive Multilingual Text Embedding Benchmark," *ICLR*, 2025.

[8] Nathaniel Weir, Bhavana Dalvi, **Orion Weller**, Oyvind Tafjord, Sam Hornstein, Alexander Sabol, Peter Jansen, Benjamin Van Durme, Peter Clark, "From Models to Microtheories: Distilling a Model's Topical Knowledge for Grounded Question Answering," *ICLR*, 2025.

[9] **Orion Weller**, Benjamin Van Durme, Dawn Lawrie, Ashwin Paranjape, Yuhao Zhang, Jack Hessel, "Promptriever: Instruction-Trained Retrievers Can Be Prompted Like Language Models," *ICLR*, 2025.

[10] 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," *NAACL*, 2025.

[11] Dongwei Jiang, Jingyu Zhang, **Orion Weller**, Nathaniel Weir, Benjamin Van Durme, Daniel Khashabi, "Self-[In]correct: LLMs Struggle with Refining Self-Generated Responses," *AAAI*, 2025.

[12] **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," *NAACL*, 2025.

[13] Jeffrey Cheng, Marc Marone, **Orion Weller**, Dawn Lawrie, Daniel Khashabi, Benjamin Van Durme, "Dated Data: Tracing Knowledge Cutoffs in Large Language Models," *Conference on Language Models (CoLM)*, 2024 **Outstanding Paper Award (Top 4)**.

[14] Nathaniel Weir, Muhammad Khalifa, Linlu Qiu, **Orion Weller**, Peter Clark, "Learning to Reason via Program Generation, Emulation, and Search," *NeurIPS*, 2024.

[15] Brennon Brimhall, **Orion Weller**, Matthew Green, Ian Miers, "A Waterlog for Detecting and Tracing Synthetic Text from Large Language Models," *Cryptology ePrint Archive*, 2024.

[16] 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," *SIGIR*, 2024.

[17] 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," *EMNLP*, 2024.

[18] **Orion Weller**, Dawn Lawrie, Benjamin Van Durme, "NevIR: Negation in Neural Information Retrieval," *EACL*, 2024.

[19] **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," *Findings of EACL*, 2024.

[20] **Orion Weller**, Marc Marone, Nathaniel Weir, Dawn Lawrie, Daniel Khashabi, Benjamin Van Durme, ""According to..." Prompting Language Models Improves Quoting from Pre-Training Data," *EACL*, 2024.

[21] **Orion Weller**, Aleem Khan, Nathaniel Weir, Dawn J Lawrie, Benjamin Van Durme, "Defending Against Disinformation Attacks in Open-Domain Question Answering," *EACL*, 2024.

[22] James Mayfield, Eugene Yang, Dawn Lawrie, Samuel Barham, **Orion Weller**, Marc Mason, Suraj Nair, Scott Miller, "Synthetic Cross-language Information Retrieval Training Data," *ArXiv*, 2023.

[23] 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," *ArXiv*, 2023.

[24] Kangda Wei, Dawn J Lawrie, Benjamin Van Durme, Yunmo Chen, **Orion Weller,** "When Do Decompositions Help for Machine Reading?" *EMNLP*, 2023.

[25] **Orion Weller**, Marc Marone, Vladimir Braverman, Dawn Lawrie, Benjamin Van Durme, "Pre-trained Models for Multilingual Federated Learning," *NAACL*, 2022.

[26] **Orion Weller**, Kevin Seppi, Matt Gardner, "When to Use Multi-Task Learning vs Intermediate Fine-Tuning for Pre-Trained Encoder Transfer Learning," *ACL*, 2022.

[27] **Orion Weller**, Matthias Sperber, Telmo Pires, Hendra Setiawan, Christian Gollan, Dominic Telaar, Matthias Paulik, "Speech Translation for Code-Switched Speech," *Findings of the ACL*, 2022.

[28] Wilson Fearn, **Orion Weller**, Kevin Seppi, "Exploring the Relationship Between Algorithm Performance, Vocabulary, and Run-Time in Text Classification," *NAACL*, 2021.

[29] **Orion Weller**, Matthias Sperber, Christian Gollan, Joris Kluivers, "Streaming Joint Speech Translation and Transcription," *EACL*, 2021.

[30] **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," *Plos One*, 2021.

[31] **Orion Weller**, Nicholas Lourie, Matt Gardner, Matthew Peters, "Learning from Task Descriptions," *EMNLP*, 2020.

[32] **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," *ACL*, 2020.

[33] **Orion Weller**, Nancy Fulda, Kevin Seppi, "Can Humor Prediction Datasets be used for Humor Generation? Humorous Headline Generation via Style Transfer," *FigLang @ ACL*, 2020.

[34] **Orion Weller**, Kevin Seppi, "The rJokes Dataset: a Large Scale Humor Collection," *LREC*, 2020.

[35] **Orion Weller**, Kevin Seppi, "Humor Detection: a Transformer Gets the Last Laugh," *EMNLP*, 2019.

SKILLS

Languages	English (native), Portuguese (intermediate), French (basic)
Programming Languages	Main: Python, Basic: C++, R, Javascript, Golang, SQL
Frameworks & Tools	PyTorch, Linux, Mechanical Turk, Django, VueJS

SERVICE

Workshop Organizer
- Scholarly Document Processing (SDP) Workshop at ACL, 2024
- Mid-Atlantic Student Colloquium on Speech, Language and Learning, 2022-2025

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
- **2025** Reviewer: CoLM, ARR. Area Chair: ARR
- **2024** Reviewer: NeurIPS, CoLM, LLM4Eval, ARR, ICLR. Area Chair: ARR
- **2023** Reviewer: ACL, EMNLP, ARR, NeurIPS
- **2022** Reviewer: ACL Rolling Review (ARR)
- **2021** Reviewer: ACL Rolling Review, ACL, EMNLP, NAACL (secondary)
- **2020** Reviewer: Meta-Learning@NeurIPS