David Wadden

Curriculum Vitae



Education

2016-2023 PhD Computer Science, University of Washington, Seattle

Advisor: Hannaneh Hajishirzi

2006-2010 BA Physics, Amherst College, Amherst

Phi Beta Kappa, With Distinction

Professional Experience and Internships

2024-Present Research Scientist, GOOGLE DEEPMIND, Seattle, WA

Member of the Extensions team for Google Gemini.

2023-2024 Research Scientist, ALLEN INSTITUTE FOR AI, Seattle, WA

AllenNLP and Semantic Scholar teams.

Summer 2021 Research Intern, GOOGLE, Seattle, WA

Hosts: Nikita Gupta, Kenton Lee, and Kristina Toutanova.

Fall 2019 - Research Intern, ALLEN INSTITUTE FOR AI, Seattle, WA

Spring 2020 Hosts: Kyle Lo and Lucy Lu Wang.

Summer 2018 Software Engineering Intern, GOOGLE, Kirkland, WA

Host: Evgeny Skvortsov

2011-2014 Associate Computational Biologist, THE BROAD INSTITUTE, Cambridge, MA

Supervisor: Aravind Subramanian.

Publications

Conference

- 2025 Niklas Muennighoff et al. (<u>David Wadden</u> author #15 of 24). **OLMoE: Open Mixture-of-Experts Language Models.** *ICLR 2025*.
- 2024 Yanai Elazar*, Jiayao Zhang*, <u>David Wadden</u>*, Bo Zhang, Noah A. Smith. **Estimating the**Causal Effect of Early ArXiving on Paper Acceptance. CLeaR (Causal Learning and Reasoning) 2024. *Denotes equal contribution
- 2024 Fangyuan Xu, Kyle Lo, Luca Soldaini, Bailey Kuehl, Eunsol Choi, <u>David Wadden</u>. KIWI: A Dataset of Knowledge-Intensive Writing Instructions for Answering Research Questions. ACL Findings 2024.
- 2024 Jian Guan, Jesse Dodge, <u>David Wadden</u>, Minlie Huang, Hao Peng. <u>Language Models</u> Hallucinate, but May Excel at Fact Verification. *NAACL 2024*.
- 2024 Chao-Chun Hsu, Erin Bransom, Jenna Sparks, Bailey Kuehl, Chenhao Tan, <u>David Wadden</u>, Lucy Lu Wang, Aakanksha Naik. CHIME: LLM-Assisted Hierarchical Organization of Scientific Studies for Literature Review Support. ACL Findings 2024.
- 2024 Orion Weller, Kyle Lo, <u>David Wadden</u>, Dawn J Lawrie, Benjamin Van Durme, Arman Cohan, Luca Soldaini. When do Generative Query and Document Expansions Fail? A Comprehensive Study Across Methods, Retrievers, and Datasets. EACL Findings 2024.

- 2024 Muhammad Khalifa, <u>David Wadden</u>, Emma Strubell, Honglak Lee, Lu Wang, Iz Beltagy, Hao Peng. Source-Aware Training Enables Knowledge Attribution in Language Models. COLM 2024.
- 2023 Yizhong Wang, Hamish Ivison, Pradeep Dasigi, Jack Hessel, Tushar Khot, Khyathi Chandu, <u>David Wadden</u>, Kelsey MacMillan, Noah A. Smith, Iz Beltagy, Hannaneh Hajishirzi. How Far Can Camels Go? Exploring the State of Instruction Tuning on Open Resources. NeurIPS (Datasets and Benchmarks) 2023.
- Ashish Sharma, Kevin Rushton, Inna Wanyin Lin, <u>David Wadden</u>, Khendra G. Lucas, Adam S. Miner, Theresa Nguyen, Tim Althoff. <u>Cognitive Reframing of Negative Thoughts through Human-Language Model Interaction</u>. *ACL 2023*.

 **Toutstanding paper.
- 2022 <u>David Wadden</u>, Nikita Gupta, Kenton Lee, Kristina Toutanova. **Entity-centric query refinement.** *AKBC 2022*.
 - **P** Best Paper Honorable Mention.
- 2022 <u>David Wadden</u>, Kyle Lo, Bailey Kuehl, Arman Cohan, Iz Beltagy, Lucy Lu Wang, Hannaneh Hajishirzi. SciFact-Open: Towards open-domain scientific claim verification. *EMNLP Findings* 2022.
- 2022 <u>David Wadden</u>, Kyle Lo, Lucy Lu Wang, Arman Cohan, Iz Beltagy, Hannaneh Hajishirzi. <u>MultiVerS: Improving scientific claim verification with weak supervision and full-document context</u>. NAACL Findings 2022.
- 2022 Dustin Wright, <u>David Wadden</u>, Kyle Lo, Bailey Kuehl, Arman Cohan, Isabelle Augenstein, Lucy Lu Wang. <u>Generating Scientific Claims for Zero-Shot Scientific Fact Checking</u>. ACI 2022
- 2021 <u>David Wadden</u>, Tal August, Qisheng Li, Tim Althoff. **The Effect of Moderation on Online Mental Health Conversations.** *ICWSM 2021*.

Telegraphy Best Paper for Outstanding Study Design.

- 2021 Rahul Nadkarni, <u>David Wadden</u>, Iz Beltagy, Noah A. Smith, Hannaneh Hajishirzi, Tom Hope. Scientific Language Models for Biomedical Knowledge Base Completion: An Empirical Study. *AKBC 2021*.
- 2021 Aida Amini, Tom Hope, <u>David Wadden</u>, Madeleine van Zuylen, Eric Horvitz, Roy Schwartz, Hannaneh Hajishirzi. Extracting a Knowledge Base of Mechanisms from COVID-19 Papers. *NAACL 2021*.
- 2020 <u>David Wadden</u>, Shanchuan Lin, Kyle Lo, Lucy Lu Wang, Madeleine van Zuylen, Arman Cohan, Hannaneh Hajishirzi. Fact or Fiction: Verifying Scientific Claims. *EMNLP 2020*.
- 2019 <u>David Wadden</u>, Ulme Wennberg, Yi Luan, Hannaneh Hajishirzi. **Entity, Relation, and Event Extraction with Contextualized Span Representations**. *EMNLP 2019*.
- 2019 Yi Luan, <u>David Wadden</u>, Luheng He, Hannaneh Hajishirzi, Mari Ostendorf. **A General** Framework for Information Extraction using Dynamic Span Graphs. *NAACL 2019*.

Preprints

- 2025 Abhilasha Ravichander, Shrusti Ghela, <u>David Wadden</u>, Yejin Choi. **HALoGEN: Fantastic** LLM Hallucinations and Where to Find Them.
- 2024 OLMo Team (<u>David Wadden</u> contributed to base model development). 2 OLMo 2 Furious.
- 2024 Akari Asai et al. (<u>David Wadden</u> author # 11 of 25). **OpenScholar: Synthesizing** Scientific Literature with Retrieval-augmented LMs.
- 2024 <u>David Wadden</u>, Kejian Shi, Jacob Morrison, Aakanksha Naik, Shruti Singh, Nitzan Barzilay, Kyle Lo, Tom Hope, Luca Soldaini, Shannon Zejiang Shen, Doug Downey, Hannaneh Hajishirzi, Arman Cohan. SciRIFF: A Resource to Enhance Language Model Instruction-Following over Scientific Literature.

Technical reports

2024 Hamish Ivison, Yizhong Wang, Valentina Pyatkin, Nathan Lambert, Matthew Peters, Pradeep Dasigi, Joel Jang, <u>David Wadden</u>, Noah A. Smith, Iz Beltagy, Hannaneh Hajishirzi. Camels in a Changing Climate: Enhancing LM Adaptation with Tulu 2.

Workshop

- 2021 Neşet Özkan Tan, Niket Tandon, <u>David Wadden</u>, Oyvind Tafjord, Mark Gahegan, Michael Witbrock. Faithful Reasoning over Scientific Claims. *AAAI Spring Symposium Series*.
- 2021 <u>David Wadden</u>, Kyle Lo. **Overview and Insights from the SciVer Shared Task on Scientific Claim Verification**. Scholarly Document Processing Workshop @ NAACL 2021.

Journal

- 2019 The ALS Stratification Consortium. **Stratification of amyotrophic lateral sclerosis** patients: a crowdsourcing approach. *Scientific Reports* 9, Article number: 690 (2019).
- 2018 Oana M Enache, David L Lahr, Ted E Natoli, Lev Litichevskiy, <u>David Wadden</u>, Corey Flynn, Joshua Z Gould, Jacob K Asiedu, Rajiv Narayan, Aravind Subramanian. The GCTx format and cmap{Py, R, M, J} packages: resources for the optimized storage and integrated traversal of dense matrices of annotated dense matrices. *Bioinformatics*, bty784.
- 2017 Aravind Subramanian et al. (<u>David Wadden</u> author #17 of 52). A Next Generation Connectivity Map: L1000 Platform And The First 1,000,000 Profiles. *Cell* 171(6):1437-1452.e17, 2017.
- 2017 Ian Smith, Peyton Greenside, Ted Natoli, David L. Lahr, <u>David Wadden</u>, Itay Tirosh, Rajiv Narayan, David E. Root, Todd R. Golub, Aravind Subramanian, John G. Doench. <u>Evaluation of RNAi and CRISPR technologies by large-scale gene expression profiling in the Connectivity Map. PLoS Biol 15(11):e2003213.</u>

Honors and Awards

- 2023 Outstanding Paper, ACL 2023. For Cognitive Reframing of Negative Thoughts through Human-Language Model Interaction.
- 2022 Best Paper Honorable Mention, AKBC 2022. For Entity-Centric Query Refinement.
- 2021 Best Paper Award for Outstanding Study Design, ICWSM 2021. For *The Effect of Moderation on Online Mental Health Conversations*.
- 2010 William Warren Stifler Prize in Physics, Amherst College.
- 2007 Bassett Physics Prize, Amherst College.

Open-source software

DyGIE++ (main author): Multitask system for entity, relation, and event extraction (550+ GitHub \bigstar).

SciFact (main author): Dataset and modeling baselines for the SCIFACT scientific claim verification dataset (200+ GitHub \bigstar).

Open-Instruct (contributor): Open instruction-following language models. (900+ GitHub ★).

Service

Professional service

2021 Organizer, SciVer shared task. Hosted at SDP workshop @ NAACL 2021.

Reviewer: EMNLP, ACL, NAACL, ACL Rolling Review, Journal of Biomedical Informatics.

Departmental service

2019, 2020 PhD admissions committee member.

2020 Prospective PhD student committee member.

Mentoring

Win-Spr '20 Shanchuan Peter Lin, UW CSE MS student → Software engineer, Microsoft.

Win-Spr, '19 Ulme Wennberg, UW CSE MS exchange student \rightarrow PhD student, KTH Royal Institute of Technology.

Technical skills

Programming languages: Python, JavaScript, R, C, Matlab.

 $\textbf{Deep learning frameworks}: \ \, \textbf{Tensorflow, Jax, PyTorch, PyTorch Lightning, AllenNLP,} \\$

Hugging Face Transformers.

Data science packages: Pandas, Numpy, Scikit-Learn, Matplotlib.

Community engagement

2019-Present Mentor, MINDS MATTER SEATTLE

Weekly tutoring and college advising for high school students from underrepresented backgrounds.