William B. **Held**

Machine Learning (ML) & Natural Language Processing (NLP)

(+1) 646-961-2627 | wheld3@gatech.edu | www.williamheld.com | Helw150 | williambarrheld

Education

Georgia Institute of Technology
Atlanta, GA, United States

3.83 GPA Ph.D. in Machine Learning — *Aug. 2021 - PRESENT*

- Advised by Prof. Diyi Yang; Research on NLP and ML for Low-Resource Languages, Language Variants, and Dialects
- NSF Graduate Research Fellowship Program Honorable Mention Recipient.

New York University Abu Dhabi
Abu Dhabi, United Arab Emirates

3.73 GPA B.S. in Computer Science with a concentration in Economics — *Aug. 2015 - May 2019*

- Research focused on semantic relation extraction and Arabic computational linguistics under Prof. Nizar Habash

Highlighted Work

A Material Lens on Coloniality in NLP
William B. Held, Camille Harris, Michael Best, Diyi Yang

Pre-Print — *2023*

Can Large Language Models Transform Computational Social Science?
Caleb Ziems, **William Held**, Omar Shaikh, Jiaao Chen, Zhehao Zhang, Diyi Yang

Journal of Computational Linguistics — *2023*

Multi-VALUE: A Framework for Cross-Dialectal English NLP
William Held[🔥], Caleb Ziems[🔥], Jingfeng Yang, Jwala Dhamala, Rahul Gupta, Diyi Yang [🔥] *Equal Contribution*

61st Annual Meeting of the Association for Computational Linguistics — *2023*

- Main Conference, Long Paper Acceptance Rate: 20.75%

DAMP: Doubly Aligned Multilingual Parser for Task-Oriented Parsing
William Held, Chris Hidey, Fei Liu, Eric Zhu, Rahul Goel, Diyi Yang, Rushin Shah

61st Annual Meeting of the Association for Computational Linguistics — *2023*

- Main Conference, Long Paper Acceptance Rate: 20.75%

Professional Experience

Meta AI
Menlo Park, CA, United States

Research Scientist Intern - GenAI Research — *May - August 2023*

- Worked on methods to improve the Multilinguality of the LLaMA Language Models.

Google Research
New York, NY, United States

Research Intern - Neural Semantic Parsing — *May - August 2022*

- Worked on methods to help extend Google Assistant's Multilingual capabilities. Work published in our paper: "DAMP".

Sunshine/Lumi Labs
Palo Alto, CA, United States

Software Engineer - Machine Learning — *June 2019 - June 2021*

- Worked with Prof. Dan Jurafsky on coreference resolution. Work published in our paper: "Focus on What Matters".
- 9th engineer hired to build out AI-powered applications focused on contact management

Foursquare
New York, NY, United States

Machine Learning Engineer Intern - Pilgrim Data Team — *May 2018 - Aug 2018*

Knotch
New York, NY, United States

Data Scientist - Knowledge Search Engine — *May 2017 - February 2018*

Quorum Analytics
Washington, D.C., United States

Software Engineering Intern - User Accounts and Permissions — *January - May 2017*

Sandia National Laboratories
Albuquerque, NM, United States

Research Intern - Computer Science Research Institute — *April - August 2015 & 2016*

Service

Reviewer	EMNLP 2023, ACL 2023, ICML 2023, EACL 2023, NeurIPS 2022
Organizer	2021 Georgia Tech Graduate Application Support (GT-GAS)
Volunteer Coordinator	The 2021 Conference on Empirical Methods in Natural Language Processing

Languages

Programming Scala(Spark), Python(PyTorch, Tensorflow), Javascript(React) **Natural** English, Arabic

All Publications

A Material Lens on Coloniality in NLP
William B. Held, Camille Harris, Michael Best, Diyi Yang
Pre-Print 2023

Task-Agnostic Low-Rank Adapters for Unseen English Dialects
Zedian Xiao, **William B. Held**, Yanchen Liu, Diyi Yang
The 2023 Conference on Empirical Methods in Natural Language Processing 2023

DADA: Dialect Adaptation via Dynamic Aggregation of Linguistic Rules
Yanchen Liu, **William B. Held**, Diyi Yang
The 2023 Conference on Empirical Methods in Natural Language Processing 2023

TADA : Task Agnostic Dialect Adapters for English
William Held, Caleb Ziems, Diyi Yang
61st Annual Meeting of the Association for Computational Linguistics 2023
- Findings, Short Paper Acceptance Rate: 35.58%

Can Large Language Models Transform Computational Social Science?
Caleb Ziems, **William Held**, Omar Shaikh, Jiaao Chen, Zhehao Zhang, Diyi Yang
Journal of Computational Linguistics 2023

Modeling Cross-Cultural Pragmatic Inference with Codenames Duet
Omar Shaikh, Caleb Ziems, **William Held**, Aryan Pariani, Fred Morstatter, Diyi Yang
61st Annual Meeting of the Association for Computational Linguistics 2023
- Findings, Long Paper Acceptance Rate: 41.89%

Multi-VALUE: A Framework for Cross-Dialectal English NLP
William Held🔥, Caleb Ziems🔥, Jingfeng Yang, Jwala Dhamala, Rahul Gupta, Diyi Yang 🔥*Equal Contribution*
61st Annual Meeting of the Association for Computational Linguistics 2023
- Main Conference, Long Paper Acceptance Rate: 20.75%

DAMP: Doubly Aligned Multilingual Parser for Task-Oriented Parsing
William Held, Chris Hidey, Fei Liu, Eric Zhu, Rahul Goel, Diyi Yang, Rushin Shah
61st Annual Meeting of the Association for Computational Linguistics 2023
- Main Conference, Long Paper Acceptance Rate: 20.75%

On Second Thought, Let's Not Think Step by Step! Bias and Toxicity in Zero-Shot Reasoning
Omar Shaikh, Hongxin Zhang, **William Held**, Michael Bernstein, Diyi Yang
61st Annual Meeting of the Association for Computational Linguistics 2023
- Main Conference, Long Paper Acceptance Rate: 20.75%

Shapley Head Pruning: Identifying and Removing Interference in Multilingual Transformers
William Held, Diyi Yang
17th Conference of the European Chapter of the Association for Computational Linguistics 2022
- Main Conference, Long Paper Acceptance Rate: 24.7%

Focus on what matters: Applying Discourse Coherence Theory to Cross Document Coreference
William Held, Dan Iter, Dan Jurafsky
Proceedings of the 2021 Conference on Empirical Methods in Natural Language Processing 2021
- Selected for Oral Presentation, Long Paper Acceptance Rate: 24.6%

The Effectiveness of Simple Hybrid Systems for Hypernym Discovery
William Held, Nizar Habash
Proceedings of the 57th Annual Meeting of the Association for Computational Linguistics 2019
- Short Paper Acceptance Rate: 18.2%

Transitioning Green-Gauss Gradients to the Kokkos Framework
William Held, Andrew Bradley
Sandia National Labs Center for Computing Research Summer Proceedings 2016

A Testing Framework for a Hybrid Triangular Solver
William Held, Andrew Bradley
Sandia National Labs Center for Computing Research Summer Proceedings 2015

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