

Jared Fernandez

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EDUCATION

Carnegie Mellon University: School of Computer Science	2020 – Expected 2026
Ph.D. in Computer Science (Language and Information Technology)	
<i>Advisors: Yonatan Bisk & Emma Strubell</i>	
Northwestern University, <i>Magna cum Laude</i>	2015 – 2019
B.S. in Computer Science with Honors & B.S. in Electrical Engineering	
<i>Advisors: Doug Downey & Thrasos Pappas</i>	

RESEARCH EXPERIENCE

Visiting Researcher	2024
<i>Meta AI, FAIR</i>	<i>New York, NY</i>
Visiting Researcher	2023
<i>Allen Institute for Artificial Intelligence</i>	<i>Remote</i>
Graduate Student Researcher	2020 – Present
<i>Carnegie Mellon University, Language Technologies Institute</i>	<i>Pittsburgh, PA</i>
Visiting Researcher	2022
<i>Google Research, Perception</i>	<i>Mountain View, CA</i>
Undergraduate Researcher	2018 – 2019
<i>Northwestern University, Pappas Group</i>	<i>Evanston, IL</i>
Undergraduate Researcher	2017 – 2019
<i>Northwestern University, WebSAIL Group</i>	<i>Evanston, IL</i>
Research Intern	Summer 2013, 2014
<i>Stanford University: School of Earth Sciences, Cosmogenic Radiation Laboratory</i>	<i>Stanford, CA</i>

INDUSTRY EXPERIENCE

Software Engineer	2019 – 2020
<i>Google, Search Notifications</i>	<i>Mountain View, CA</i>
Software Engineering Intern	Summer 2019
<i>Google, Dialogflow NLU</i>	<i>Mountain View, CA</i>
Software Engineering Intern	Summer 2018
<i>Google, Assistant on Android Auto</i>	<i>Mountain View, CA</i>
Research Support Intern	Summer 2015
<i>SLAC National Accelerator Laboratory</i>	<i>Menlo Park, CA</i>

FELLOWSHIPS & AWARDS

NSF Graduate Research Fellowship	2021 – 2024
Carnegie Mellon University Research Fellowship	2020 – 2021
Departmental Honors, Northwestern University	2019
Tau Beta Pi, Northwestern University	2018
Eta Kappa Nu, Northwestern University	2018
Undergraduate Research Grant, Northwestern University	2017

PUBLICATIONS

- 1. Hardware Scaling Trends & Diminishing Returns in Large-Scale Distributed Training.**
Jared Fernandez, Luca Wehrstedt, Leonid Shamis, Mostafa Elhoushi, Kalyan Saladi, Yonatan Bisk, Emma Strubell, Jacob Kahn
Under Review at Transactions on Machine Learning Research (TMLR), 2025.
- 2. Energy Considerations of Large Language Model Inference & Efficiency Optimizations.**
Jared Fernandez*, Clara Na*, Vashisth Tiwari*, Yonatan Bisk, Sasha Luccioni, Emma Strubell
Under Review at ACL Rolling Review (ACL ARR), 2025.
- 3. Holistically Evaluating the Environmental Impact of Creating Language Models.**
Jacob Morrison, Clara Na, Jared Fernandez, Tim Dettmers, Emma Strubell, Jesse Dodge
International Conference on Learning Representations (ICLR), 2025.
- 4. Gradient Localization Improves Lifelong Pretraining of Language Models.**
Jared Fernandez, Yonatan Bisk, Emma Strubell
Findings of the ACL: EMNLP (EMNLP Findings), 2024.
- 5. The Framework Tax: Disparities Between Inference Efficiency in Research & Deployment.**
Jared Fernandez, Jacob Kahn, Clara Na, Yonatan Bisk, Emma Strubell
Workshop on Efficient Systems for Foundation Models at ICML (ES-FOMO), 2023.
Empirical Methods in Natural Language Processing (EMNLP), 2023.
- 6. CIGLI: Conditional Image Generation from Language & Image.**
Xiaopeng Lu, Lynette Ng, Jared Fernandez, Hao Zhu
Workshop on Closing the Loop Between Vision and Language at ICCV (CLVL), 2021.
- 7. Generative Data Augmentation for Commonsense Reasoning.**
Yiben Yang, Chaitanya Malaviya, Jared Fernandez, Swabha Swayamdipta, Ronan Le Bras, Ji-Ping Wang, Chandra Bhagavatula, Yejin Choi and Doug Downey
Findings of the ACL: EMNLP (EMNLP Findings), 2020.
- 8. CODAH: An Adversarially Authored Question-Answer Dataset for Common Sense.**
Michael Chen, Mike D’Arcy, Alisa Liu, Jared Fernandez, and Doug Downey
Workshop on Evaluating Vector Space Representations for NLP (RepEval), 2019.
- 9. Sampling Informative Training Data for RNN Language Models.**
Jared Fernandez and Doug Downey.
Association of Computational Linguistics: Student Research Workshop (ACL-SRW), 2018.
- 10. VecShare: A Framework for Sharing Word Representation Vectors.**
Jared Fernandez, Zhaocheng Yu, and Doug Downey
Empirical Methods in Natural Language Processing (EMNLP), 2017.

NON-ARCHIVAL WORKSHOPS AND PREPRINTS

- 1. Evaluating the Environmental Impact of Language Models with Life Cycle Assessment.**
Jared Fernandez*, Clara Na*, Yonatan Bisk, Emma Strubell
Climate Change AI Workshop (CCAI at ICLR), 2025.
- 2. Efficiency Pentathlon: A Standardized Arena for Efficiency Evaluation.**
Hao Peng, Qingqing Cao, Jesse Dodge, Matthew E. Peters, Jared Fernandez, Tom Sherborne, Kyle Lo, Sam Skjonsberg, Emma Strubell, Darrell Plessas, Iz Beltagy, Evan Pete Walsh, Noah A. Smith, Hannaneh Hajishirzi
Preprint (Arxiv), 2023.
- 3. Adapting to Gradual Distribution Shifts with Continual Weight Averaging.**
Jared Fernandez, Saujas Vadaguru, Sanket Vaibhav Mehta, Yonatan Bisk, Emma Strubell
Workshop on High-Dimensional Learning Dynamics at ICML (HiDL), 2023.

TEACHING ASSISTANTSHIPS

On-Device Machine Learning <i>with Profs. Yonatan Bisk & Emma Strubell</i>	Fall 2023, 2024
Machine Learning <i>with Prof. Doug Downey</i>	Spring 2018
Discrete Math <i>with Prof. Aravindan Vijayaraghavan</i>	Fall 2017
Artificial Intelligence <i>with Prof. Michael Rubenstein</i>	Spring 2017

DEPARTMENTAL SERVICE

Graduate Application Support Program Mentor , <i>Carnegie Mellon University</i>	2020 – 2022
Undergraduate & Graduate Student Mentor , <i>Carnegie Mellon University</i>	2020 – 2022
Undergraduate Mentor , <i>Northwestern Eta Kappa Nu</i>	2019
External Vice President , <i>Northwestern IEEE Student Chapter</i>	2018
Technical Program Director , <i>Northwestern IEEE Student Chapter</i>	2017

PROFESSIONAL SERVICE

Reviewing:

ACL Rolling Review	2024, 2025
NeurIPS	2022, 2024, 2025
ICLR	2022, 2024
ICML	2023
ACM Multimedia	2022

Student Volunteer: EMNLP 2017, ACL 2018