

Jared Fernandez

phone: (408) 832-3234 | email: jaredfern@cmu.edu | web: <https://jaredfern.com>

EDUCATION

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

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 International Conference on Learning Representations (ICLR), 2024.
2. **Holistically Evaluating the Environmental Impact of Creating Language Models.**
Jacob Morrison, Clara Na, **Jared Fernandez**, Tim Dettmers, Emma Strubell, Jesse Dodge
Under Review at International Conference on Learning Representations (ICLR), 2024.
3. **Gradient Localization Improves Lifelong Pretraining of Language Models.**
Jared Fernandez, Yonatan Bisk, Emma Strubell
Findings of the ACL: EMNLP (EMNLP Findings), 2024.
4. **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.
5. **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.
6. **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.
7. **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.
8. **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.
9. **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.
10. **Sampling Informative Training Data for RNN Language Models.**
Jared Fernandez and Doug Downey.
Association of Computational Linguistics: Student Research Workshop (ACL-SRW), 2018.
11. **VecShare: A Framework for Sharing Word Representation Vectors.**
Jared Fernandez, Zhaocheng Yu, and Doug Downey
Empirical Methods in Natural Language Processing (EMNLP), 2017.

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 – Present
Undergraduate & Graduate Student Mentor, <i>Carnegie Mellon University</i>	2020 – Present
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: ICML 2023; ICLR 2022, 2024; ACL 2024; NeurIPS 2022, 2024; ACM Multimedia 2022
Student Volunteer: EMNLP 2017, ACL 2018