

Jared Fernandez

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EDUCATION

Aug 2020 – Present **Carnegie Mellon University: School of Computer Science**
PhD. in Language and Information Technologies

Sep 2015 – Jun 2019 **Northwestern University, *Magna cum Laude***
B.S. in Computer Science with Honors
B.S. in Electrical Engineering

PROFESSIONAL EXPERIENCE

Nov 2019 – Aug 2020 **Google, Software Engineer**
1. Pipelined and evaluated the effectiveness of various features for predicting user engagement with Search notifications.

Jun 2019 – Sep 2019 **Google, Software Engineering Intern**
Host: Igor Poletaev (Dialogflow NLU)
1. Improved intent recognition and out-of-domain detection models used to process user conversations with enterprise chat bots.
2. Designed pipeline for domain adaptation and finetuning of sentence embedding models. Increased downstream intent recognition by +4.8% acc.

Jan 2017 – Jun 2019 **Northwestern University, Research Assistant**
PI: Douglas Downey (WebSAIL Group)
1. Constructed novel methods for commonsense QA data generation through novel adversarial authoring [3] and generative data augmentation methods [4].
2. Proposed weighted importance sampling techniques to select training data for RNN language models [2].
3. Introduced compact signatures representations for sets of word embeddings
Released open-source library for sharing and selecting embeddings online [1].

Mar 2018 – Jun 2019 **Northwestern University, Research Assistant**
PI: Thrasyvoulos Pappas
1. Designed efficient metrics for measuring perceptual texture similarity for use in image retrieval and segmentation.

Jun 2018 – Sep 2018 **Google, Software Engineering Intern**
Host: Jess Lai (Google Assistant on Android Auto)
1. Improved query handling for Google Search and Assistant. Built new interfaces for submitting offline queries to improve discoverability for Assistant on Auto.

Jun 2015 - Aug 2015 **SLAC National Accelerator Laboratory, Research Support Intern**
1. Analyzed and provided visualizations for x-ray diffraction patterns of high-temperature superconductors.

Jun 2013 - Aug 2014 **Stanford University - School of Earth Sciences, Research Intern**
PI: Kimberly Blisniuk (Cosmogenic Radiation Lab)
1. Determined slip rates on the San Andreas Fault using mass spectrometry dating of Beryllium isotopes.

PUBLICATIONS

1. ***G-Daug: 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.
ArXiv Preprint, abs/2004.11546.
2. ***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.
3. ***Sampling Informative Training Data for RNN Language Models.***
Jared Fernandez, and Doug Downey.
Association of Computational Linguistics: Student Research Workshop (ACL SRW), 2018.
4. ***VecShare: A Framework for Sharing Word Representation Vectors.***
Jared Fernandez, Zhaocheng Yu, and Doug Downey.
Empirical Methods in Natural Language Processing (EMNLP), 2017.

PRESENTATIONS

1. ***Sampling Informative Training Data for RNN Language Models.***
Jared Fernandez, and Doug Downey.
Midwest Speech and Language Days, 2018.

TEACHING EXPERIENCE

Spring 2018 **EECS 349: Machine Learning** with Prof. Douglas Downey
Fall 2017 **EECS 212: Discrete Math** with Prof. Aravindan Vijayaraghavan
Spring 2017 **EECS 348: Artificial Intelligence** with Prof. Michael Rubenstein

PROFESSIONAL SERVICE

2020 **ACL Student Research Workshop**, Program Committee
2019 **Northwestern Eta Kappa Nu**, Undergraduate Mentor
2018 **Northwestern IEEE Student Chapter**, External Vice President
Organized reading group for discussions of research papers in Electrical Engineering and Computer Science. Led corporate outreach to coordinate tech talks & hackathons.
2017 **Northwestern IEEE Student Chapter**, Technical Program Director
Oversaw redesign of the IE³ software development mentorship program with over 50 members. Project manager for machine learning & web development teams.

AWARDS & HONORS

2019 **Northwestern University**, Computer Science Departmental Honors
McCormick School of Engineering, Undergraduate Honors
2018 **Tau Beta Pi Honor Society**, Member
Eta Kappa Nu Honor Society, Member
2017 **Northwestern University**, Undergraduate Research Grant

SKILLS

Languages: Python, C, C++, C#, Java, MySQL, Matlab, HTML/CSS
Packages/Frameworks: PyTorch, TensorFlow, Keras, NumPy, Pandas, OpenCV, Android, Git, LaTeX