

# Jared Fernandez

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## EDUCATION

- Aug 2020 – Present **Carnegie Mellon University: School of Computer Science**  
PhD. in Language and Information Technologies  
Advisors: Yonatan Bisk, Emma Strubell
- 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	<b>EECS 349: Machine Learning</b> with Prof. Douglas Downey
Fall 2017	<b>EECS 212: Discrete Math</b> with Prof. Aravindan Vijayaraghavan
Spring 2017	<b>EECS 348: Artificial Intelligence</b> with Prof. Michael Rubenstein

## PROFESSIONAL SERVICE

2020	<b>ACL Student Research Workshop</b> , Program Committee
2019	<b>Northwestern Eta Kappa Nu</b> , Undergraduate Mentor
2018	<b>Northwestern IEEE Student Chapter</b> , 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	<b>Northwestern IEEE Student Chapter</b> , Technical Program Director Oversaw redesign of the IE <sup>3</sup> software development mentorship program with over 50 members. Project manager for machine learning & web development teams.

## AWARDS & HONORS

2019	<b>Northwestern University</b> , Computer Science Departmental Honors <b>McCormick School of Engineering</b> , Undergraduate Honors
2018	<b>Tau Beta Pi Honor Society</b> , Member <b>Eta Kappa Nu Honor Society</b> , Member
2017	<b>Northwestern University</b> , 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