Jared Fernandez

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EDUCATION

Carnegie Mellon University: Language Technologies Institute   2020 – Present
Ph.D. in Language & Information Technologies
Advisors: Yonatan Bisk & Emma Strubell

Northwestern University, *Magna cum Laude*   2015 –2019
B.S. in Computer Science with Honors & B.S. in Electrical Engineering
Advisors: Doug Downey & Thrasos Pappas

RESEARCH EXPERIENCE

Graduate Student Researcher   2020 – Present
Carnegie Mellon University, Language Technologies Institute   *Pittsburgh, PA*
- Investigating the computational efficiency of multimodal language and vision transformer neural networks.

Undergraduate Researcher   2017 – 2019
Northwestern University, WebSAIL Group   *Evanston, IL*
- Designed methods for building commonsense datasets through adversarial authoring & data augmentation
- Proposed weighted importance sampling techniques to select training data for RNN language models
- Introduced compact signatures representation of word embedding. Released open-source library for sharing embeddings online

INDUSTRY EXPERIENCE

Software Engineer   2019 – 2020
Google, Search Notifications   *Mountain View, CA*
- Pipelined and evaluated the effectiveness of various features for predicting user engagement with targeted Search notifications through experiments on live traffic
- Designed infrastructure to predict user engagement with event-based notification subscriptions

Software Engineering Intern   Summer 2019
Google, Dialogflow NLU   *Mountain View, CA*
- Improved intent recognition & out-of-domain detection models for conversations with users in enterprise chat bots
- Designed pipeline for domain adaptation and finetuning of sentence embedding models. Increased downstream intent recognition by +4.8% acc.

Software Engineering Intern   Summer 2018
Google, Assistant on Android Auto   *Mountain View, CA*
- Improved query processing in Google Assistant and query handling by Search.
- Built new interfaces for submitting offline queries to improve discoverability for Assistant on Auto.

FELLOWSHIPS & AWARDS

NSF Graduate Research Fellowship   2021 – 2024
Undergraduate Research Grant, *Northwestern University*   2017

PUBLICATIONS

1. **Generative Data Augmentation for Commonsense Reasoning**   *EMNLP Findings, 2020*
2. **CODAH: An Adversarially Authored Question-Answer Dataset for Common Sense**   *RepEval, 2019*
3. **Sampling Informative Training Data for RNN Language Models**   *ACL-SRW, 2018*
4. **VecShare: A Framework for Sharing Word Representation Vectors**   *EMNLP, 2017*

TECHNICAL SKILLS

Languages: Python, C/C++, Java, Shell Scripting, SQL, MatLab, HTML/CSS
Tools & Frameworks: Git, Docker, Vim, PyTorch, TensorFlow, Keras, NumPy, OpenCV, Android, LaTeX