

Peter Zukerman

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EXPERIENCE

Natural Language Processing Scientist

Since Dec. 2021

Infoscitex Corporation

Dayton, OH

- Integrated DeepSpeech model with Rasa NER
- Analyzed GoogleSTT, Coqui, and DeepSpeech models tailored for low resource tasks
- Bootstrapping a Named Entity Recognition schema using self-learning to boost accuracy
- Constructing an end-to-end STT to NER pipeline

Backend Developer

June 2021 - Dec. 2021

Spotify (Findaway)

Solon, OH

- Extended Voices Marketplace API in AWS
- Implemented backend infrastructure using Python and Django
- Troubleshoot AWS usage errors and monitored user influx to load balancer

Natural Language Processing Intern

June 2020 - Aug. 2020

Raytheon BBN

Cambridge, MA

- Developed an AI visualization metric, enhancing detection by 83%
- Pioneered a sorting algorithm, boosting accuracy by a factor of 2.6 with no efficiency loss
- Designed logic for data models, increasing data collation and improving visualization

Speech Processing Intern

May 2019 - Sept. 2019

VoiceIt LTD.

Tel Aviv, Israel

- Integrated VoiceIt backend infrastructure with Amazon Alexa
- Introduced a low-resource data augmentation paradigm, improving speech recognition by 24%
- Expanded parselmouth library, optimizing Praat's usage for machine learning in Python

RESEARCH AND PUBLICATIONS

Targeted Multilingual Models | *University of Washington*

Since Nov. 2022

- Co-authoring a paper on targeted multilingual models that cover a family of languages or several families in a close geographic relationship
- Positing that usually there is no need to use a “cross-lingual” or “massively multilingual” model for any given end task, since many languages and their associated vocabulary/parameters will be left unused

BERT Verb Alternations | *University of Washington*

Mar. 2022 - June 2022

- Co-authored a paper on verb alternation classes and understanding using BERT. Accepted to BlackBoxNLP '22.
- Generated verb alternation sentence corpus, FAVA-ex, to augment existing FAVA and LaVA corpuses

Natural Language Processing | *University of Illinois at Urbana-Champaign*

Jan. 2019 - June 2021

- Co-authored paper on adversarial speech synthesis
- Improved a morphological analyzer for the Siberian Yupik language with Prof. Lane Schwartz
- Wrote a Yupik E-Book parser, now in active use in St. Lawrence Island community
- IYIL 2019 Paper on initiating a tool-building infrastructure the Yupik community - Fort Wayne, IN
- Presented at CodeMash 2019 on Unicode, UTF-8, and foreign languages

EDUCATION

University of Washington

Seattle, WA

Master of Science in Computational Linguistics

Sep. 2021 – May 2023

University of Illinois at Urbana-Champaign

Champaign, IL

Bachelor of Science in Computer Science and Linguistics

Aug. 2017 – May 2021

TECHNICAL SKILLS

Languages: Python, Java, C/C++, JavaScript, HTML/CSS, Ruby, R

Developer Tools: Git, Docker, Linux, Google Cloud Natural Language, AWS

Libraries: pandas, Sci-Py, NumPy, Matplotlib, NLTK, carmel, Tensorflow, PyTorch

Foreign Languages: Russian (Fluent), Japanese (Business Proficiency), Korean, Hebrew and Spanish (Conversant)