

Peter Zukerman

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EDUCATION

University of Illinois at Urbana-Champaign
Bachelor of Science in Computer Science and Linguistics

Champaign, IL
Aug. 2017 – Dec. 2020

EXPERIENCE

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

Software Engineering Intern

May 2018 - Aug. 2018

Rockwell Automation

Mayfield, OH

- Implemented machine learning prediction algorithm to detect machine failure rate (TensorFlow)
- Optimized algorithm for accuracy, improving manual prediction rates 2.5 times
- Built an internal web application for inventory management (Java, HTML, CSS)

RESEARCH

Speech Perception (JP/US) | *University of Tokyo*

Since Oct 2019

- Analyzing instantaneous perception of Japanese English by listeners with various language profiles
- Working with Prof. Nobuaki Minematsu - published paper to Phonetic Society of Japan
- Concluded English speech utterances have 70% comprehension rates among Japanese native speakers

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

Since Jan 2019

- Co-authored ACL paper on adversarial speech synthesis, currently submitted
- 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

PROJECT HIGHLIGHTS

Twitter Sarcasm Detection | *Python, Jupyter, Keras, Pandas, BERT*

June 2020 - Present

- Data augmentation and preprocessing increased usable dataset from 5000 to 20000 entries
- Implemented using BERT and improvements over various state of the art language models
- Ranked #1 on online text classification leaderboard with 1000+ competitors

zucker.io, claid.club | *Ruby, HTML, Javascript, YAML, JSON*

Since May 2019

- Created personal and college organization websites
- CLAIID website serves 100+ weekly users, tracked by Google Analytics
- Full Discord server integration - moderate 150+ concurrent users
- Head of Tutoring program - coordinate events, manage members and lead teams

TECHNICAL SKILLS

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

Frameworks: Flask, JUnit, Tensorflow, NLTK, Pandas, Sci-Py, Keras

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

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

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