

# EILEEN BLUM (she/her)

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## Education

### PhD, Linguistics

GPA: 3.83

Rutgers, The State University of New Jersey - New Brunswick | Sept 2015-Jan 2023

### Bachelor of Arts, Linguistics

GPA: 3.86

University of California Santa Cruz | 2012-2014

### Intersegmental General Education Transfer Curriculum Certificate

Diablo Valley College | 2010-2012

## Work Experience

### Dialogue Designer

*Tek Systems | Remote in New Jersey, USA | July 2021-Present*

Google Cloud CCAI

- Annotate conversation data to identify voice and chat bot failures and successes, better understand user experiences
- Identify data quality issues, Create a plan and resolve NLU and UX problems; Implement changes directly within Dialogflow CX
- Develop, test, and deploy a new label taxonomy; Oversee training of 15 team members
- Collaborate with engineers to improve labeling process
- Write 17 process documents to track changes and train new team members
- Contribute to two best practices documents for DialogflowCX, published by Google
- Write documentation guide, Proofread and edit ReadMe for new SCRAPI Python library

### Linguistics Fellow & Teaching Assistant

*Rutgers University | New Brunswick, NJ | September 2015-June 2021*

Research: Phonology, Formal Language Theory, Computational complexity, Acoustic experimentation

- Execute two major research projects over six years:
  - Apply formal language theory to linguistic data; Evaluate computational complexity of vowel harmony patterns across six languages represented over two different data structures
  - Recorded 20 native speakers to test acoustic correlates of word stress in Munster Irish; Transcribed and analyzed acoustic data of 207 words for each participant using Praat, t-tests, and linear mixed effects models in R
- Present cutting-edge research on linguistic theory and language data to expert audiences at local conferences
- Collaborate with experts in four disciplines: computer science, math, linguistics, and cognitive psychology
- Strong proficiency with IPA and excellent understanding of other linguistic representations
- Create course content and serve as primary instructor for two introductory linguistics courses (covering phonology, morphology, syntax, semantics) with 30 undergraduate students each
- Serve as primary instructor for two expository writing courses with 27 undergraduate students each
- Organize and host first *PhD to Industry* informational event with five panelists and up to 50 attendees
- Orchestrate summer mini-course with five lessons on methods of artificial learning
- Coordinate colloquium series for two years

*Erdős Institute Natural Language Processing Bootcamp | February-March, 2021*

- Built a Wasserstein Generative Adversarial Network (WGAN) to generate metal song lyrics in lines of 8 words, Compared with Soft-GAN lyric generator, Demonstrated that models need different input to improve naturalness of generated lines
- Trained on Kaggle dataset, Engineered using Python packages and methods: NLTK, Keras, Tensorflow, Numpy, Pandas, Calculated BLEU scores to determine naturalness of generated lyrics
  - Earned scores of: WGAN 0, Soft-GAN averaged 0.06 for n-grams of length 1-4

*Erdős Institute Data Science Bootcamp | May, 2020*

- Created a classifier in Python titled *Metal or Not?* to distinguish song lyrics by genre, achieving 81% classification accuracy
- Analyzed two Kaggle data sets using Python packages and methods: GenSim, NLTK, Word2Vec, PCA, K-cluster, DecisionTreeClassifier, Numpy, Pandas

## Skills

*Languages:* French (intermediate), Irish Gaelic (Beginner)

*Technical:* Python, R, Dialogflow CX, IPA, Praat, Audacity, html

## References (email is most reliable)

Adam Jardine (Academic Advisor): [adam.jardine@rutgers.edu](mailto:adam.jardine@rutgers.edu), (848)932-0497

Roman Holowsky (Founder at Erdős Institute): [holowsky@gmail.com](mailto:holowsky@gmail.com), (908)425-1412