DANIEL QUIGLEY

dquigleydev@gmail.com ◇ +1 (414) 335-2754

EDUCATION

PhD: Linguistics; PhD Minor: Computer Science; Physics — **May 2026 (expected)**
University of Wisconsin–Milwaukee

Master's Certificate: Theoretical Physics — **July 2019**
Universiteit Utrecht

BSc: Physics; Astronomy; Mathematics; Linguistics; Anthropology — **June 2018**
University of Wisconsin–Madison

ACADEMIC PROJECTS

Ellipsis Resolution in Natural Language Processing — **2020 - Present**
University of Wisconsin-Milwaukee PhD Research

- Description of transformational grammar and construction grammar approaches to ellipsis resolution
- Developing NLP methods for ellipsis, anaphora, and coreference resolution using neural network architectures
- Implementation of anaphora resolution, reformulation methods, and frameworks in construction grammar to optimize ellipsis resolution relative to accuracy, time, and computing power

NLP Sentiment Analysis of Movie Reviews: Comparison of Optimized NLP Architectures — **2022**
University of Wisconsin-Milwaukee Course Project

- Comparison of test and prediction accuracy scores for polarity sentiment analysis of movie reviews
- Built three architectures for comparison with hyperparameter tuning across ten neural network epochs with cutoff for validation loss: BERT; RNN; CNN
- Documentation included description of architectures for instruction and learning purposes

NLP POS Tagging and Similarity Scores — **2022**
University of Wisconsin-Milwaukee Course Project

- Generated POS-tags on pre-tokenized sentences using Stanza and evaluated relative to Brown corpus
- Measured similarity scores using word2vec and GloVe embeddings on word-pair datasets using Gensim
- Polarity sentiment analysis of IMDB movie reviews scored for test and prediction accuracy, cutoff for validation loss, and optimized for number of epochs and nodes

ML Optimization Project — **2021**
University of Wisconsin-Milwaukee Course Project

- Optimized, evaluated, and compared performance scores for classification: Decision Tree Classifier; K-Nearest Neighbor; Multinomial Naive Bayes; Logistic Regression; SVC; Dummy Classifier; Neural Network
- Optimized, evaluated, and compared performance scores for regression: Decision Tree Regressor; Linear Regression; SVR; Dummy Regressor; Neural Network
- Evaluated various CNN architectures of image classification task using the Fashion-MNIST dataset

RELEVANT SKILLS

Python	IDLE; Jupyter Notebook; VIM; Anaconda; NumPy; Pandas; Keras; Scikit Learn; Natural Language Toolkit; Gensim; Stanza; Tensorflow
C/C++	Arduino; ZeroMQ
Computational and Statistical Analysis Software	Mathematica; MATLAB; R; SPSS
Speech Analysis Tools	PRAAT; Audacity; TANDEM-STRAIGHT
Web Design and Formatting	HTML/CSS; Jekyll
Operating Systems	Windows 7, 8, 10; Linux (Ubuntu, CentOS, Arch, EndeavourOS); macOS (OS X El Capitan through macOS Monterey)
Typesetting, Presentation, and Spreadsheet Software	LaTeX; Office 365; LibreOffice; iWork