

# Daniel Quigley

Linguistics and Artificial Intelligence PhD Candidate | Genius Technician  
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## PERSONAL PROFILE

Highly motivated and ambitious PhD student with a passion for linguistics, artificial intelligence, and science communication, possessing a strong interdisciplinary and diverse skillset in the natural sciences, linguistics, mathematics, programming, natural language processing, machine learning, and artificial intelligence acquired through academic study and practical experience.

## EDUCATION

- PhD, Linguistics and Artificial Intelligence** 2025  
University of Wisconsin-Milwaukee, Milwaukee, WI  
— PhD Minor, Computer Science
- MA, Linguistics** 2023  
University of Wisconsin-Milwaukee, Milwaukee, WI
- MSc Certificate, Theoretical Physics** 2019  
Universiteit Utrecht, Utrecht, The Netherlands  
— Honors, Graduate Student Interdisciplinary Seminar
- BSc, Anthropology, Astronomy, Linguistics, Mathematics, Physics** 2018  
University of Wisconsin-Madison, Madison, WI  
— Certificate in Archaeology

## PUBLICATIONS

- Quigley, Daniel (2023). Exploring Category-Theoretic Morphisms for Model-Theoretic Semantics. Manuscript submitted for review.
- Quigley, Daniel (2023). Decoding Authorial Style, Tone, and Mood in Poetic Translations through Natural Language Processing: An Analysis of Beowulf. In Proceedings: Workshop in General Linguistics.

## PRESENTATIONS

- “Tensor Space and Category-Theoretic Semantics for Resolving Long-Distance Linguistic Expressions in Natural Language Processing”  
• PhD preliminary paper and presentation UW-Milwaukee, May 2023
- “Decoding Authorial Style, Tone, and Mood in Poetic Translations through Natural Language Processing: An Analysis of *Beowulf*”  
• Workshop in General Linguistics UW-Madison, April 2023
- “ $\text{\LaTeX}$  for Linguists”  
• Summer Workshop UW-Milwaukee, August 2022

## SKILLS

- Programming Languages and Development Tools**  
Python (NumPy, Keras, Scikit-Learn, Gensim, Stanza, NLTK, PyTorch, Pandas, IDLE),  $\text{\LaTeX}$ , VIM
- Machine Learning, Language Processing, Data Analysis, and Development Tools**  
TensorFlow, Excel, Mathematica, Keras, Scikit-Learn, PyTorch, PRAAT, Stanza, NLTK

## ***Operating Systems and Software***

Linux, Windows, MacOS, Conda, CUDA (GPU Programming), MS Office Suite

## **EXPERIENCE**

### ***Production Engineer***

Apple, Cupertino, CA

*2023–present*

- Tested and deployed iOS, tvOS, watchOS, and macOS demo content to production.
- Validated content and apps in multiple languages prior to deployment to demo devices.
- Created test plans and validated new features and internal tools while writing and maintaining internal technical documentation.

### ***Genius Technician***

Apple, Glendale, WI

*2021–present*

- Demonstrated leadership while also mentoring Technical Specialists and Technical Experts; developed and implemented new processes to improve efficiency and effectiveness of Genius Bar team.
- Exceeded expectations for customer satisfaction: attained performance review scores of 88 TMS and 74 NPS, excelling in metrics for technical expertise (89) and empathy (80).
- Certified for iPhone and Mac repair, maintaining 95% repair rate on devices.

### ***PhD Researcher***

University of Wisconsin-Milwaukee, Milwaukee, WI

*2020–present*

- Conducting research in artificial intelligence and natural language processing on problems in natural language understanding and semantic representations of word- and phrase-level expressions.
- Proved category theoretic morphisms between formal semantics and vector space semantics; derived tensor forms of high-level linguistic phrases.
- Researching linguistic and mathematical foundations and methods for optimization in context of Geometric Neural Networks and Category Theory for natural language understanding.

### ***Instructor of Record***

University of Wisconsin-Milwaukee, Milwaukee, WI

*2020–present*

- Responsible for class sizes of 20-30 students per semester, providing comprehensive support and guidance.
- Designed course content to include topics in natural language processing, such as introductory concepts and artificial intelligence ethics.
- Providing effective feedback and communication to improve performance, demonstrating commitment to student success and learning.

### ***L<sup>A</sup>T<sub>E</sub>X Developer***

University of Wisconsin-Milwaukee, Milwaukee, WI

*2020–present*

- Designed L<sup>A</sup>T<sub>E</sub>X document templates, accepted by university as official resources for graduate school.
- Created document tagging and readability methods to improve designs of accessible PDF documents.
- Developing intelligent UIs for improved accessibility of PDF documents, improving usability for users with accessibility needs and machine readability.

### ***Research Assistant***

Wisconsin IceCube Particle Astrophysics Center, Madison, WI

*2014–2018*

- Designed and implemented simulations, data acquisition systems, and visualizations for HAWC (High-Altitude Water Cherenkov) gamma-ray detector.
- Resolved discrepancies in gamma-ray results across four international experiments; wrote GPS data system using ZeroMQ in C++.
- Communicated results of simulations and technical developments with international teams, demonstrating strong collaboration and communication skills.