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*

"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), 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.

LaTeX Developer
University of Wisconsin-Milwaukee, Milwaukee, WI *2020–present*
- Designed LaTeX 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.