

RESEARCH INTERESTS

Natural language processing, computational linguistics, data visualization.

EDUCATION

08/2024 - **Doctor of Philosophy in Computer Science and Engineering** (in progress)
Present Ohio State University | Columbus, Ohio

08/2020 - **Bachelor of Science in Computer Science** (*Summa cum laude*)
05/2023 Sattler College | Boston, Massachusetts

01/2017 - **Ontario College Advanced Diploma: Computer Programmer Analyst**
12/2019 Fanshawe College | London, Ontario

WORK EXPERIENCE

08/2023 - **Teaching Assistant** | Sattler College, Boston
12/2023 - Assisted in teaching, preparing course materials, and grading.

08/2022 - **Computer Science Tutor (Work Study)** | Sattler College, Boston
05/2023 Tutored underclassmen with computer science coursework.

08/2022 - **Resident Assistant (RA)** | Sattler College, Boston
05/2023 Supervised and assisted residents, organized events, and mediated between staff and students.

01/2021 - **Mobile App Developer (Work Study)** | Sattler College, Boston
05/2023 Developed Android & iOS app called Journey Groups, now being used by students.

01/2018 - **Junior Software Developer** | Cineplex Digital Media, London, Ontario
12/2020 Developed software for controlling digital displays via serial and TCP protocols; maintained custom Linux distribution for embedded systems.

PUBLICATIONS

- Frederick Riemenschneider* and **Kevin Krahn***. 2024. *Enhancing Low-Resource Language Analysis With Character-Aware Hierarchical Transformers: SIGTYP 2024 Shared Task*, In *Proceedings of the 6th Workshop on Research in Computational Linguistic Typology and Multilingual NLP*, pages 131–141, St. Julian's, Malta. Association for Computational Linguistics
Implemented hierarchical transformer architecture for enhanced performance on 13 low-resource historical languages for tasks including morphological analysis, PoS tagging, and lemmatization.
- **Kevin Krahn**, Derrick Tate, and Andrew C. Lamicela. 2023. *Sentence Embedding Models for Ancient Greek Using Multilingual Knowledge Distillation*. In *Proceedings of the Ancient Language Processing Workshop associated with RANLP-2023*, pages 13–22.
Trained language models for Ancient Greek utilizing knowledge distillation and cross-lingual transfer from modern languages; compiled parallel training data with translation alignment; developed new evaluation datasets.

SKILLS

Developer Tools: Linux environments, SSH, Docker, Git, Bash, Jupyter, PyTorch, Numpy

Programming Languages: C++, Python, Javascript, Go, Rust

Web Development: HTML, CSS, WebGL, React, Svelte, Node.js

Computer graphics: GLSL, OpenGL, Vulkan

Natural languages: English (native), Ancient Greek (3 years), Ancient Hebrew (2 years)

SELECTED PROJECTS

- **Ζήτηση - Semantic Search for Ancient Texts**
Online tool for searching the Ancient Greek corpus with English queries. | [[Website](#)]
- **Char to Word DeBERTa**
Expanded DeBERTa model with hierarchical architecture for unlimited vocabulary. | [[GitHub](#)]
- **Ancient Greek Translation Alignment**
Align English translations to original Greek text at the sentence level. | [[GitHub](#)]