Christopher Nuttall

Linguist Analyst | Ph.D. Corpus Linguistics

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MOTIVATION

I am passionate about **solving business problems** using linguistic analysis. I systematically & creatively use my skillset to **add tangible value** to the team and the business. I am constantly **learning** and always looking to improve.

SKILLS & TOOLS

Programming: Python (3 graduate courses), SQL, Jupyter Notebook
Data Tools: Excel spreadsheets, SPSS, AntConc
Linguistic & Statistical Analysis: PCA, Cluster Analysis, corpus methods, lexico-grammatical feature extraction, rhetorical move analysis, grammar, syntax, and semantics
Project Skills: Qualitative and quantitative research methods, written/oral presentation, project management
Languages: Portuguese (advanced-low), English (native)

PROJECTS

Multidimensional Corpus Analysis of NSF Project Summaries

- Designed and executed a novel corpus study of 286 NSF Project Summaries, tagging 140 lexical, grammatical, and semantic features. This analysis **applied PCA** to uncover four new dimensions of linguistic variation occurring in project summaries. **ANOVAs** and qualitative analysis of texts were further utilized to determine the effect and influence of academic discipline on linguistic variation in NSF summaries. Results carried direct implications for individuals tasked with writing grant proposals.

Clustering and Taxonomy Development for Grant Proposal Data

- Applied **hierarchical cluster analysis** to a corpus of ~300 NSF Project Summaries, reducing high-dimensional linguistic data into meaningful clusters. Identified three key parameters driving language variation (research type, communicative purpose, and hybridized disciplinary topic) and developed a **scalable taxonomy** of proposal types, providing a framework to improve data collection, sampling strategies, and predictive modeling for future analyses.

Corpus-based Analysis of Lexical Frames in NSF Grant Abstracts

- Developed **Python** scripts employing **regex patterns** and other **NLP** techniques to clean data and extract lexical frames and calculate key statistics from a corpus of 3,500 NSF grant proposal abstracts. Applied NLP and statistical analysis to profile four-word lexical frame use based on preestablished **structural and semantic ontologies**, revealing key phraseological characteristics directly linked to writing quality, public-facing NSF abstracts. This project demonstrates skills in **text mining**, **corpus analysis**, and **automating large-scale linguistic data processing**.

WORK EXPERIENCE

Graduate Researcher, Iowa State University 2019 – 2025

- Designed 8+ data-driven linguistic research projects analyzing large-scale textual datasets (e.g., 2,000+ texts) to extract domain-specific syntactic and semantic features across scientific disciplines.
- Built reproducible Python pipelines to automate corpus cleaning and feature extraction (e.g., lexical bundles, lexico-grammatical patterns) for linguistic insight at scale.
- Applied unsupervised machine learning methods, including Principal Components Analysis and hierarchical clustering in SPSS and R, to classify document types and uncover latent discourse structures.
- Developed and managed custom corpora for multiple analyses, supporting empirical insights into domain-specific language variation.
- Used SPSS**,** Python, and Excel for statistical analysis, visualization, and interpretation of linguistic data, producing insights with potential applications in NLP tasks.

Linguistics Grammar Instructor, Iowa State University 2022 - 2023

- Provided instruction for three course sections regarding morphology, phraseology, and syntax**.**
- Helped students pinpoint morphological, phraseological, and syntactical structures.
- Assessed students' ability to analyze linguistic features in context.

EDUCATION

Ph.D. (Applied Linguistics and Technology) 2019 - 2025
Iowa State University, IA
- Specialized in corpus linguistics

M.A. (TESOL) 2014 - 2016
Brigham Young University, UT

B.A./B.A. (Portuguese/Philosophy) 2011
Brigham Young University, UT
- Double majored in Portuguese and Philosophy

SELECTED PUBLICATIONS

Gray, B., & **Nuttall, C.** (2024). Disciplinary Discourses and Second Language Research. In M. Prior & B. Paltridge (Eds.), The Routledge Handbook of Second Language Acquisition and Discourse.

Nuttall, C. (2021). Profiling Lexical Frame Use in NSF Grant Proposal Abstracts. Applied Corpus Linguistics, 1(3).

COURSES AND CERTIFICATIONS

NLP with Python for Machine Learning Essential Training Certification 2025
LinkedIn Learning

- **Actionable Learnings:** Machine Learning. Natural Language Processing. Python Programming.

Data Science Infinity Online Course July 2025 - Present

- **Actionable Learnings:** Extracting & manipulating data using SQL. Using Python for data analysis, manipulation & visualization. Turning business problems into Data Science solutions.