Michael Sullivan

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Education

PhD in Linguistics *August 2020 - June 2025*
Semantics/Pragmatics Track
University at Buffalo
Thesis: Language Modeling over Logical Forms

MS in Computer Science and Engineering *August 2023 - June 2024*
Research/Honors Track
University at Buffalo
MS Project: Probing NLI Models with External Negation

BA in Linguistics with Research Distinction *August 2016 - May 2019*
The Ohio State University
Minors: Spanish, German
Thesis: A Nondeterministically-Enumerated Categorial Grammar Analysis of Croatian and English Passive Constructions

Research Interests

Logical Reasoning with LLMs

LLM Agents/Reinforcement Learning

(Neurosymbolic) NLP/NLU

Formal Semantics

Academic Positions

Postdoctoral Researcher *August 2024 - Present*
Saarland University

Industry Positions

NLP Research Intern *May 2023 - August 2023*
BlueHalo LLC

Research Groups

Computational Linguistics Group (Dr. Alexander Koller) *August 2024 - Present*
Saarland University *Member*

NLP Research Group (Dr. Rohini Srihari) *March 2023 - May 2024*
University at Buffalo *Member*

BERT/Distributional Semantics Lab   *January 2021 - May 2024*
University at Buffalo   *Coordinator*

Syntax/Semantics Lab (Dr. JP Koenig, Dr. Rui Chaves)   *August 2020 - May 2024*
University at Buffalo   *Member*

Service

LangLunches Talk Series Organizing Committee   *April 2024 - Present*
Saarland University   *Member*

Erasmus Mundus LCT Summer School Hackathon   *August 28, 2024*
Saarland University   *Jury Member*

Graduate Linguistics Association   *August 2022 - August 2023*
University at Buffalo   *Secretary*

Workshops

Distributed Machine Learning   *September 25, 2023*
University at Buffalo CSE Fall 2023 Workshop Series   *Speaker*

PyTorch Tutorial   *September 22, 2023*
University at Buffalo CSE Fall 2023 Workshop Series   *Event Manager*

Teaching (Instructor of Record)

Semantic Theory   *Summer 2025*
Saarland University

Seminar: Graph Deep Learning for NLP   *Winter 2024/25*
Saarland University

Software Project: Pretraining Language Models   *Winter 2024/25*
Saarland University

Introduction to Linguistic Analysis (LIN 205)   *Fall 2022*
University at Buffalo

Introduction to Linguistic Analysis (LIN 205)   *Spring 2022*
University at Buffalo

Advising

Luisa Geiger *(Advisor, Saarland University, 2025)*
Investigating Logical Consistency in Automatically Generated Sewing Instructions *(MSc Thesis)*

Publications

Sullivan, Michael (2025). Exploring Graph Representations of Logical Forms for Language Modeling. In *Findings of the Association for Computational Linguistics: ACL 2025* (in print).

Sullivan, Michael (2025). *Language Modeling over Logical Forms* (Doctoral dissertation, University at Buffalo).

Sullivan, Michael (2024). It is not True that Transformers are Inductive Learners: Probing NLI Models with External Negation. In *Proceedings of the 18th Conference of the European Chapter of the Association for Computational Linguistics (Volume 1: Long Papers)*, 1924-1945.

Sullivan, Michael, Madani, Navid, Saha, Sougata, and Srihari, Rohini (2023). Positional Transformers for Claim Span Identification. In *Forum for Information Retrieval Evaluation (Working Notes)*.

Saha, Sougata, Sullivan, Michael, and Srihari, Rohini (2023). Hate Speech Detection in Low Resource Indo-Aryan Languages. In *Forum for Information Retrieval Evaluation (Working Notes)*.

Sullivan, Michael, Yasin, Mohammed N., and Jacobs, Cassandra L. (2023). University at Buffalo at SemEval-2023 Task 11: MASDA–Modelling Annotator Sensibilities through DisAggregation. In *Proceedings of the The 17th International Workshop on Semantic Evaluation (SemEval-2023)*.
Nominated for Best System Paper Award at SemEval 2023

Sullivan, Michael (2023). Formal-Logical Distributional Semantics: Applications to Property Inference. In *Workshop on Knowledge Augmented Methods for Natural Language Processing at AAAI 2023*.