Dan DeGenaro

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EXPERIENCE

GEORGETOWN UNIVERSITY | Graduate Teaching Assistant
Sep 2023 – Present | Washington, DC

- Served as a teaching fellow for three graduate courses and one undergraduate course.
- Developed, debugged, tested, and graded assignments in the form of Python notebooks.
- Lectured on PyTorch and Google Colab fundamentals.

JOHNS HOPKINS UNIVERSITY | Visiting Research Scholar
June 2024 – Aug 2024 | Baltimore, MD

- Participated in the Human Language Technology Center of Excellence SCALE 2024 workshop.
- Contributed to a multimodal information retrieval system designed to retrieve relevant videos given text queries.
- Developed a novel technique using downstream retrieval systems to produce preference rankings. Fine-tuned LLM using reinforcement learning to produce more retrievable document summaries.

MIT | Project Course Instructor
May 2024 – Aug 2024 | Remote

- Designed and implemented, from scratch, a machine learning and NLP course for sophisticated high school students.
- Taught advanced machine learning concepts including deep learning architectures such as transformers to 18 students for 7 weeks.
- Guided students to produce 5 group projects using cutting-edge machine learning techniques.

UNIVERSITY OF COLORADO, COLORADO SPRINGS | Undergraduate Researcher
May 2022 – Aug 2022 | Colorado Springs, CO

- Developed a novel technique for the distillation of a multilingual BERT model into a smaller model.
- Developed original dataset, trained and fine-tuned a series of neural networks using PyTorch.
- Wrote and presented a research paper documenting methodology and results.

PUBLICATIONS

[1] D. DeGenaro and T. Lupicki. Experiments in mamba sequence modeling and nllb-200 fine-tuning for low resource multilingual machine translation. In *Proceedings of the 4th Workshop on Natural Language Processing for Indigenous Languages of the Americas (AmericasNLP 2024)*, pages 188–194, 2024.

[2] D. DeGenaro, E. Yang, N. King, D. Etter, C. Carpenter, K. Sanders, A. Martin, K. Murray, and R. Kriz. Fortify: Generative model fine-tuning with orpo for retrieval expansion of informal noisy text. In *UNDER REVIEW*, 2025.

EDUCATION

GEORGETOWN UNIVERSITY
PhD in Computer Science
Starting Aug 2025 | Washington, DC

GEORGETOWN UNIVERSITY
MS in Computational Linguistics
Aug 2023 - May 2025 | Washington, DC

UMASS AMHERST
BA in Linguistics
BS in Physics
BS in Applied Mathematics
Minor in Computer Science
Minor in Russian
Sep 2019 - May 2023 | Amherst, MA

SKILLS

PROGRAMMING
Python • R • Java • SQL • MATLAB
HTML/CSS • C • JavaScript

TECHNOLOGY
PyTorch • TensorFlow • Data Science
Git/Github • AWS • Linux
Docker • Windows • Slurm

COURSEWORK

GRADUATE
Deep Learning *(also TA)*
Multilingual NLP
Machine Learning
Hypothesis Testing
Data Analytics *(TA)*
Computer Vision *(TA)*

UNDERGRADUATE
NLP I-III
Sociolinguistics
Mathematical Stats
Algorithm Design + Analysis
Calculus I-III
Linear Algebra I-II
Differential Equations
Quantum Mechanics I-II

LINKS

Github: **ddegenaro**
LinkedIn: **daniel-degenaro**
Google Scholar: **bU6sD_0AAAAJ**
Semantic Scholar: **2308476598**
ORCiD: **0009-0005-1850-1801**
ResearchGate: **Dan-Degenaro**