Dan DeGenaro

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Education

Aug 2023 – Ongoing
Georgetown University. GPA: 4.0
M.S. in Computational Linguistics

Sep 2019 – May 2023
University of Massachusetts, Amherst. GPA: 4.0
B.A. in Linguistics, B.S. in Physics, B.S. in Applied Mathematics
Minors: Computer Science, Russian
Member of Commonwealth Honors College

Research Experience

Sep 2022 – May 2023
University of Massachusetts, Amherst *Honors College Thesis*
- Title: "Acting Different(*-ly*): Bringing Derivational Morphology into Variationist Linguistics"
- Developed a linguistic dataset with over 27,000 items.
- Analyzed the syntactic and lexical distribution of adverbial *-ly* in African American English.
- Evaluated a well-known automated part-of-speech tagger and found a shortcoming.
- Presented findings at *New Ways of Analyzing Variation (NWAV) 51*.

May 2022 – Aug 2022
University of Colorado, Colorado Springs *Undergraduate Researcher*
- Developed a novel technique for the distillation of a multilingual BERT model (a large neural network) into a smaller model.
- Developed original dataset, trained and fine-tuned a series of neural networks using PyTorch.
- Made numerous presentations to an audience of professors and peers in computer science; wrote a research paper documenting methodology and results.

May 2021 – Dec 2021
Center for the Study of African American Language at UMass Amherst *Research Assistant*
- Transcribed and analyzed linguistic data from an African American community in south-western Louisiana, with attention to tense morphology and aspectual markers.
- Compiled, digitized, and contributed to databases of speech tokens involving aspectual markers.
- Some of the data I annotated was presented in *Caregiver Narratives: Variation in the Input and Child African American Language* at NWAV 51 by a colleague of mine.

University Leadership and Teaching Experience

Sep 2023 – Dec 2023
Computer Science Department at Georgetown University *Graduate Teaching Assistant*
- TA for a graduate course in data analytics.
- Responsible for holding three office hours each week.
- Graded repository-based group projects.
- Answered student questions via Piazza.

Sep 2023
Linguistics Department at Georgetown University *Workshop Facilitator*
- Taught an introductory workshop on using LaTeX to linguistics and affiliated students.
- Developed workshop from scratch, incorporating interactive examples.
- Made resources and examples available to my fellow students for further study.

Sep 2022 – May 2023 | **Learning Resource Center at UMass Amherst** *Peer Mentor*

- Promoted to this role in addition to the basic tutoring role described below.
- Additional duties involve training, interviewing, observing, and evaluating new tutors, as well as assisting with the hiring process for a potential superior.

Sep 2020 – May 2023 | **Learning Resource Center at UMass Amherst** *Tutor*

- Assigned 2-3 shifts per week (6-9 hours/week). Each shift consisted of an office hours-style help session or pre-scheduled appointments.
- Assisted over 50 students per semester with subjects including linguistic theory, statistics, data structures, linear algebra, calculus, differential equations, and physics.
- Attained CRLA Level II Certification.

Sep 2020 – May 2022 | **Physics Department at UMass Amherst** *Physics 131/281 Teaching Assistant*

- Physics 131: held 7-10 office hours per week over Zoom for two semesters, Fall 2020 and Spring 2021. For Fall 2021, attended class to assist students with team-based learning problems (5 hours per week).
- Physics 281: assisted students taking Computational Physics (a course for physics majors) with Python, relevant numerical methods, and physical theory. Assisted during class sessions and held a weekly office hour (5 hrs per week).

Industry Teaching Experience

May 2021 – Aug 2021 | **iD Tech Camps** *Certified Instructor*

- Taught a week-long course to a group of between 3 and 6 middle and/or high school-aged students each week during the summer.
- Taught 2 hours per day to each group, 5 days a week over Zoom.
- Taught using a curriculum developed by iD Tech as a baseline, but adjusted to each group's unique skills, interests, and abilities as needed.
- Curriculum included the fundamentals of Java programming, object-oriented programming, simple searching and sorting algorithms, and building a simple Tic-Tac-Toe application.

Honors and Awards

2019 – 2023 | **Graduated Summa Cum Laude** *University of Massachusetts, Amherst*

- Awarded for academic excellence.

2021 – 2022 | **LeRoy F. Cook, Jr. Memorial Scholarship** *UMass Amherst, Department of Physics*

- Awarded for academic excellence and for engaging in teaching/tutoring as an undergraduate.

2021 – 2023 | **Phi Kappa Phi** *University of Massachusetts, Amherst*

- Awarded for academic excellence.

2019 – 2023 | **Chancellor's Award** *University of Massachusetts, Amherst*

- Tuition scholarship awarded by UMass Chancellor for academic excellence.

2019 – 2023 | **Thomas J. Watson Memorial Scholarship** *Thomas J. Watson Foundation*

- Tuition scholarship awarded by IBM for academic excellence.

2019 – 2023 | **Dean's List** *University of Massachusetts, Amherst*

- Awarded for academic excellence. Earned every semester.

Conference Talks

2023 1. **DeGenaro, D.** *Acting Different(-ly): Bringing Derivational Morphology into Variationist Linguistics* in *New Ways of Analyzing Variation* **51** (2023).

2022 2. **DeGenaro, D.** *Examining the Perceived Meaning of African American English Dialect Aspectual Markers* in *Cornell Undergraduate Linguistics Conference* **16** (2022).

Skills

- Programming languages: Python (packages including NumPy, MatPlotLib, SciPy, Pandas, Scikit-Learn, NLTK, PyTorch/TorchAudio, HuggingFace Libraries), Java, MATLAB, R, HTML/CSS, C, JavaScript, Mathematica, SQL
- Algorithms: neural networks (including large language models such as BERT), numerical methods, curve fitting, linear optimization (simplex), Markov models, context-free grammars, regular expressions
- Mathematics: algorithm design and analysis, discrete mathematics, vector calculus, linear algebra, differential equations, statistics, group theory, quantum mechanics
- Tools: RStudio, VSCode, VIM, Emacs, PuTTY, LaTeX/Overleaf, Linux utils, Jupyter notebooks, Conda virtual environments, Docker/Singularity, Git/Hub, Google Suite including Colab, Google Cloud Platform, Microsoft Suite, Microsoft Azure, Zotero, Gurobi, AWS EC2, Praat, ELAN
- Languages: English (native), Spanish (advanced), French (advanced), Russian (conversational), German (beginner)

Service

- Founder, Playing Instruments Together Creating Harmony (PITCH) at UMass Amherst. Founded a student organization which provides a space for non-music majors to learn music theory and musical improvisation, as well as practice using organization-owned instruments and equipment, completely free of charge for all interested students. The organization also hosts student showcases.
- Peer Mentor, UMass Amherst Department of Physics. Tasked with advising new undergraduate physics majors on getting involved in research, how to succeed as physics majors, and what courses outside the department may supplement their learning.

Professional Membership

- Member, Linguistic Society of America