

# Madelyn Scandlen

mscandlen3@gatech.edu

+1 830-446-2323

[linkedin.com/in/madelyn-scandlen](https://www.linkedin.com/in/madelyn-scandlen)

<https://mscandlen.github.io/mscandlen/>

## EDUCATION

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### Master of Science, Computer Science

Expected Graduation: December 2023

Georgia Institute of Technology – *Atlanta, GA*

- Machine Learning specialization
- Relevant Coursework: Human-Machine Learning, Data Science for Social Networks, Data and Visual Analytics
- GPA: 3.61

### Bachelor of Science, Computer Science

August 2018 - May 2022

Georgia Institute of Technology – *Atlanta, GA*

- Intelligence & People concentrations, Linguistics Minor
- GPA: 3.71 – Highest Honors

## RESEARCH EXPERIENCE

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### Research Assistant

August 2020 – December 2021

*Linguistics Department, Georgia Institute of Technology*

Language & Politics in the New South

- Collected sociolinguistic interviews from native Georgia residents.
- Transcribed participants' speech using PRAAT and measure vowel space using DARLA.
- Generated Python and R programs to analyze the relationships between political ideology and "Southern vowels".

### Research Assistant

February 2020 – August 2021

*DILAC, Georgia Institute of Technology*

NLP Analysis on the Works of Ralph Waldo Emerson

- Performed Entity Extraction on collected works of Ralph Waldo Emerson with SpaCy and NeuralCoref libraries and validated entries using SparQL queries on WikiData.
- Built a Knowledge Graph of Emerson's frequently mentioned entities for analysis, visualized using D3.

## WORK EXPERIENCE

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### Data Science Intern (Internship)

May – August 2023

HP Inc. – *Houston, TX*

- Contributed to the AI Systems by developing business-specific machine learning models.
- Fine-tuned and repurposed open-source LLMs to improve automation internally.

### Software Development Intern (Internship)

May – July 2020

State Farm Insurance – *Phoenix, AZ*

- Joined the XR team to implement a Virtual Reality simulation for employee onboarding.
- Implemented a mobile application in the VR simulation using C# for backend and the Unity IDE for UI.

## TEACHING EXPERIENCE

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**Graduate Teaching Assistant – CS 4510, Automata & Complexity**  
Georgia Institute of Technology – *Atlanta, GA*

**August 2022 – December 2023**

**Teaching Assistant – CS 1331, Object Oriented Programming**  
Georgia Institute of Technology – *Atlanta, GA*

**January 2019 – December 2021**

## PRESENTATIONS

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Scandlen, M., Lelia Glass & Jon Forrest. 2021. Perceiving Southernness and Political Ideology in Speech.  
*Linguistics Conference at the University of Georgia*.

Liotta, M. & Madelyn Scandlen. 2021. Language and Politics in the New South. *Georgia Tech Undergraduate Research Symposium*.

## RELEVANT PROJECTS

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**Generating Adversarial Fake Reviews**

**September 2022 – December 2022**

- Create a Generative Adversarial Network to generate fake domain-specific Yelp reviews with a character-level RNN while using a CNN discriminator to assess user style with the purpose of contributing to the development of improved detection models.

**Disfluencies on Reddit**

**May 2022**

- Investigated gender differences in the use of *um* and *uh* on social media to propose a new pragmatic sense of typed disfluent speech.

**Language Acquisition on Reddit**

**October – December 2021**

- Categorized users of language learning subreddits (r/learnSpanish, r/Spanish) by self-disclosed motivation to understand the trends in activity and success.

## HONORS & AWARDS

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**President's Undergraduate Research Award**

**Summer 2021**

**Highest Honors**

**Fall 2018 – Spring 2022**

## INVOLVEMENTS

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- North American Summer School for Language, Logic, and Information (NASSLLI) 2022 at University of Southern California
- European Summer School for Language, Logic, and Information (ESSLLI) 2021 held virtually
- Oxford Study Abroad program in 2019

## SKILLS

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*Programming:* R, SQL, Java, Spark, Python

NumPy, Pandas, Keras, PyTorch, Scikit-learn, NLTK, LangChain, Huggingface packages

*Skills:* Git, Javascript, Tableau