

Tripp Dow

Education

2021–2025 **BA Computer Science**, *University of Minnesota*, Minneapolis, MN
Honors student. 3.8 GPA. Pursuing minors in mathematics and philosophy.

Work Experience

Fall 2023–Present **Undergraduate Research Assistant**, *Minnesota NLP Group*, Minneapolis, MN
• Creating tools for scientific communication using generative AI

Summer 2023 **Software Engineering Intern**, *Emercent Technologies*, Rochester, MN
• Developed a web server and GUI to interact with medical devices
• Designed and trained a transformer model for spirometric calibration

Summer 2023 **Undergraduate Research Assistant**, *Michigan State University*, East Lansing, Michigan
• Developed methods for author name disambiguation in large datasets of academic literature, including string-based approaches, a large-language model classifier, and a co-author network search

Summer 2022 **Software Engineering Intern**, *Area 10 Labs*, Rochester, MN
• Created a mobile application for digital spirometry, including calibration, storage, and Fourier analysis
• Assisted in the fabrication and soldering of medical equipment
• Created algorithms to model human respiration

Skills

Programming Languages Python, C, C++, C#, Java, Javascript

Software and Libraries PyTorch, HuggingFace, Git, Pandas, Docker, Flask, React, ngrok, Tensorflow

Other Bash, LaTeX, Digital Signal Processing, Soldering, Arduino, Medical Devices

Projects

Ongoing **SciTok**, *Minnesota NLP Group*
Currently leading a project to increase public access to academic research, using generative AI.

Fall 2023 **Akashic**, *Personal Project*
I developed a retrieval-augmented chatbot using quantized large language models, which runs on a single laptop, without the need for internet connection or external API calls. The interface allows users to chat with an AI assistant, who can read from user-selected collections of documents.

Ongoing **Graphical Methods for Author Name Disambiguation**, *MSU DeepThought Initiative*
As a continuation of an NSF REU, I am designing an author name disambiguation system using a hierarchical approach. Only publications with a certain threshold of title similarity are compared, and co-author attributes are used for disambiguation.

Awards and Honors

2021–2023 UMNTC Dean's List

2023 SEIU Cecilia Razook Essay Scholarship

Professional Affiliations

Member, Society of Research Software Engineering