

Yingchen (Eric) Ma

Computational Science and Engineering Department, Georgia Institute of Technology, Atlanta, GA 30308

Email: yma473@gatech.edu | Phone: (248) 719-6226 | Homepage: <https://yma17.github.io/>

Education

- Ph.D. in Computer Science, **Georgia Institute of Technology** (Aug 2023 - present)
Advisor: Srijan Kumar. *Planned minor:* Public Policy. *GPA:* 4.00/4.00.
- M.S. in Computer Science, **Georgia Institute of Technology** (Aug 2021 - May 2023)
Specialization: Machine Learning. *GPA:* 3.78/4.00.
- B.S. in Computer Science, **University of Michigan** (Sep 2017 - May 2021)
GPA: 3.54/4.00.

Research Interests

Misinformation / Counter-Misinformation	Online Interventions
Social Media Analysis	Computational Social Science
Natural Language Processing	Machine Learning
Data Science	Statistics

Publications

- *Characterizing and Predicting Social Correction on Twitter* [[pdf](#)]
Yingchen (Eric) Ma, Bing He, Nathan Subrahmanian, Srijan Kumar.
15th ACM Web Science Conference (WebSci'23).
- *Measuring and Mitigating Group Inequalities In Resource Allocation* [[pdf](#)]
Arya Farahi, **Yingchen (Eric) Ma**, Angela Ting.
ACM Journal on Responsible Computing.

Current Projects

- **Analyzing Disparities in Social Media Counter-Misinformation:** Leading a project to investigate differences in the amount of counter-misinformation posted towards misinformation-spreading users across demographic attributes such as race, sex, and education.
 - Advised by [Prof. Srijan Kumar](#), Assistant Professor, CSE @ Georgia Tech

Previous (completed) Projects

- **Analyzing and Predicting Twitter Counter-Misinformation:** Investigated features of misinformation-spreading tweets and users that correlate with increased likelihood to receive replies that counter / debunk said misinformation.
 - Advised by [Prof. Srijan Kumar](#), Assistant Professor, CSE @ Georgia Tech

- **Multilingual Analysis of Autism Discussion on Twitter:** Investigated the discourse surrounding autism on Twitter across various languages, through analysis and comparison of sentiment, topical focus, and engagement statistics.
 - Course final project for CS 7650 (Natural Language) @ Georgia Tech
- **Analysis of Anxiety Discussion on Twitter:** Investigated the relationship between features of tweets that aim to seek mental health support for anxiety, and the likelihood to receive tweet engagement and supportive replies ([repository](#)).
 - Course final project for CS 6474 (Social Computing) @ Georgia Tech
- **Urban Road Repair Proposal:** Led a project to develop an end-to-end decision pipeline to propose roads in an urban setting, with the objective of maximizing economic, demographic, and accessibility related benefit to the community ([repository](#)).
 - Advised by [Prof. Arya Farahi](#), Assistant Professor, SDS @ UT Austin
- **Neural Processes Project:** Implemented Pytorch variants of neural processes (NPs), a type of deep latent probabilistic model ([repository](#)). Applied NPs to evaluate the performance of a domain adaptation algorithm proposed in a submission to ICML 2021 ([link to paper](#)).
 - Advised by [Prof. Ding Zhao](#), Assistant Professor, MechE @ Carnegie Mellon

Work Experience

Graduate Research Assistant, **Georgia Institute of Technology**, Atlanta, GA (Aug 2022 - present)

- Working on “Counter-Misinformation” projects - see above under “Current / Previous Projects”

Technology Solutions Intern, **Pioneer Natural Resources**, Irving, TX (May - Aug 2023)

- Performed machine learning based risk assessment on physical, chemical, and operational factors that contribute to scaling and subsequent failure of electrical submersible pumps (ESPs) used for oil extraction.

Programming Intern, **Wal Fuel Systems**, Livonia, MI (Dec 2021 - Apr 2022)

- Implemented a genetic algorithm to propose more distance, time, and fuel efficient company truck delivery schedules ([repository](#)).
- Delivered end-to-end pipeline for company employees to run, that utilizes the algorithm to generate daily truck routing decisions based on updatable location and demand data.

Awards

Marshal D. Williamson Fellowship (Apr 2023)

- Awarded by Georgia Institute of Technology - \$1.5K USD

Skills

- **Technical (computational):** Machine learning, deep learning, natural language processing, graph learning, applied data analysis, data structures, algorithms.
- **Technical (mathematical):** Optimization, linear algebra, probability, statistics, calculus.
- **Programming languages:** Python (proficient), C++ (proficient), SQL, C, Java.
- **Libraries/frameworks/tools:** ML libraries (Pytorch, Tensorflow, scikit-learn), Numpy, Pandas, Matplotlib, Plotly, Streamlit, Jupyter Notebook, Google Colab, Git, Linux, Docker.