

# Lingchao (Ling) Mao

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Highly-motivated Ph.D. student with 4+ years of experience in **theoretical and applied machine learning** (5 first-authored publications, 2 best paper awards), 2 **data analysis** internships working with cross-functional teams, and passionate about creating end-to-end ML/AI solutions for good impact.

## EDUCATION

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- Ph.D. Machine Learning, M.S. Computer Science** 2025  
*Georgia Institute of Technology*, GPA 3.85/4.00, Machine Learning for Health and Brain Imaging Lab
- B.S. Statistics, B.S. Industrial and Systems Engineering** 2020  
*North Carolina State University*, GPA 4.00/4.00
- Selected awards: Caldwell Fellow, Deloitte Startup Innovation Competition (1st), Diamond Hacks (1st)

## SELECTED EXPERIENCE

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- Research Assistant** Jan 2021 – present  
*Georgia Institute of Technology, Atlanta | Mayo Clinic, Arizona*
- Implemented machine learning models for predicting patient outcomes from **multi-modal data** (clinical, imaging, genomics, speech signals), performing data cleaning, feature engineering, model evaluation, and interpretation.
  - Developed new machine learning models customized to solve real-case challenges, including a **weakly supervised transfer learning** model for personalized predictions of brain cancer despite limited labels.
  - Prototyped deep learning models for **image segmentation** and **classification** from 2D and 3D images.
  - Delivered 12 conference presentations and build 2 GUI demos for non-technical users to visualize model results.
- Industrial Engineering Co-op** Aug – Dec 2018 and Aug – Dec 2019  
*Hafele America Co., Archdale, NC*
- Co-built the data warehouse to host +5yrs of supply chain data after the company's transition to SAP.
  - Enhanced process efficiencies through data analysis as seen by creating an inventory consolidation tool that was used daily by 3 warehouses and creating scripts that automated 15h+/week of data cleaning.
  - Analyzed data with volume of +600k daily transactions and generated KPI reports for management review.

## SELECTED PROJECTS

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- 🔗 **Mendel, a LLM Assistant for Bioinformatics Data Analysis** *LLM, Langchain, Chainlit*
- Built a multi-agent chatbot for plan and code generation for single-cell data analysis, deployed with web interface.
  - Experimented strategies to improve code quality such as prompt engineering, vector database, and function calling.
- 🔗 **Finding Topic Influencers on Social Media** *Python, RShiny, Twitter API*
- Created scripts to retrieve 2M+ tweets and scraped 400+ policies from various websites ([dashboard link](#)).
  - Analyzed user engagement on Twitter through network analysis and identified top topic influencers.
- 🔗 **MMTrip, a Personalized Multi-modal Routing Planner** *React, Django, Python*
- A personalized trip planning app that provides multi-modal routes considering 5 modes of transport.
  - Built a prediction model of Uber fare based on estimated hourly surge patterns.
- 🔗 **Predicting Unplanned Hospital Admissions Using Large-Scale Dataset** *Python, PostgreSQL*
- Analyzed 15M+ medical claims and various socioeconomic datasets to build machine learning models for predicting hospitalization probability for Medicare patients; our team ranked top 10% in this national challenge

## TECHNICAL SKILLS

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**Skills** Machine Learning, Deep Learning, Computer Vision, Predictive Models, Data Viz, Data Mining  
**Languages** Python, R, SQL, SAS (Advanced Programmer), Visual Basic, Java,  
**Frameworks** PyTorch, Langchain, Spark, Jupyter, Docker, AWS (Certified Cloud Practitioner)  
**Interests** I play okay-level tennis, enjoyable-level piano, and take great care of a tuxedo cat

For publications, see [link](#) to Google Scholar