

# Azizakhon Mirsaidova

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## EDUCATION

- **Northwestern University** Evanston, IL  
*Master of Science in Artificial Intelligence* September 2021 - December 2022
- **Middle Tennessee State University** Murfreesboro, TN  
*Bachelor of Business Administration in Finance, Data Science (minor)* August 2017 - May 2021

## TECHNICAL SKILLS

**Languages:** Python, R, C++, SQL [MySQL, PostgreSQL]

**Frameworks and Libraries:** PyTorch, TensorFlow, Pandas, Numpy, Matplotlib, NLTK, Plotly, Scikit-Learn

**Skills:** Data Science, Machine and Deep Learning, Speech Recognition, Natural Language Processing, Optimization

## RESEARCH EXPERIENCE

- **C3 Lab: Cognition, Creativity, and Communication** Evanston, IL  
*Graduate Research Assistant* October 2022 - Present
  - **Knowledge Base Question Answering:** Developing a model using BERT architecture with data oversampling via Wikidata to predict answer types and categories to improve answer classification for QA.
- **Tiilt Lab: Technological Innovations for Inclusive Learning and Teaching** Evanston, IL  
*Graduate Research Assistant* November 2021 - Present
  - **Speech recognition:** Building multi channel source separation model using **Transformer** architecture and **SepFormer** by optimizing speech recognition process for Blinc platform.
  - **NLP:** Developing topic models using **Latent Dirichlet Allocation**, **BerTopic** to better understand the discussion collected from speech technologies and enhance semantics understanding of text.
- **University of Washington, eScience Institute** Seattle, WA  
*Data Science for Social Good Fellow* June 2022 - August 2022
  - **Database Design:** Designed and deployed end-to-end database system from scratch using **SQL** and **Python** for Self Sufficiency Standard data.
  - **Time Complexity Reduction:** Optimized data insertion and retrieval process time by over **75%**, now requiring only **30 minutes from the previous 3-5 hours**.
- **Station1 Frontiers Fellowship** Remote  
*Fellow, Adv. Christine Ortiz and Ellen Spero* June 2021 - August 2021
  - **Socially Directed Science and Technology Training:** Awarded a competitive fellowship valued at \$15,000 to participate in a research program focused on interdisciplinary curriculum by training to design research based on social equity systems, sociotechnical and community-based participatory research.
  - **Poster: Mirsaidova, A., Munoz, J. (2021).** Mapping Tribal Land Using Geospatial Information Systems and Analyzing Demographic and Socioeconomic Data: A Contemporary Case of Ohlone Tribe in California. ArcGIS Story Maps.
- **Middle Tennessee State University** Murfreesboro, TN  
*Undergraduate Research Assistant* December 2019 - May 2021
  - **Data Science:** Automated data pipeline processes and built multiple dashboards for tracking Tennessee economy in real-time leveraging Census data using Python and Tableau.
  - **Publication:** Arik, M., Riley, J., **Mirsaidova, A.**, Sumaiya, M. (2021). Shifts in Family Businesses Due to the Covid-19 Pandemic. Global Journal of Entrepreneurship, 153.

## GRADUATE TEACHING EXPERIENCE

**MSAI 348 Introduction to Artificial Intelligence:** Conducted office hours engaging about 40 students into coursework covering topics as search, knowledge bases, machine learning, optimization, naive bayes, neural networks and others. (Fall 2022)

**MBAI 417 Data and Data Intensive Systems:** Designed the course lab and homework assignments by applying ML and NLP techniques and mentored about 43 Kellogg MBAI students to learn SQL and Python fundamentals. (Winter 2022)

## COMMUNITY SERVICE

**CodePath:** Technical Interview Prep Mentor for Data Structure and Algorithm questions. (Summer 2022)

**The Code It! Challenge EvanSTEM:** Mentored Evanston middle school students to code Arcade game. (Fall 2021)