

# Zijie Xu

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## EDUCATION

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**University of Michigan** | GPA: 3.78/4.00

Ann Arbor, MI

*Bachelor of Science in Data Science*

*Aug. 2024 – May 2028*

Relevant Coursework: Data Structures & Algorithms, Practical Data Science, Machine Learning, Web Systems,

Probability & Statistics, Applied Regression

**Michigan State University** | GPA: 3.75/4.00

East Lansing, MI

*Dual Enrollment*

*Aug. 2023 – Apr. 2024*

Relevant Coursework: Linear Algebra, Multivariable Calculus

## EXPERIENCE

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**Research Assistant**

May 2025 – Aug 2025

*Computer Vision Lab, Michigan State University*

*East Lansing, MI*

- Created object-masked evaluation pipelines by combining segmentation outputs from MaskDINO into unified foreground masks for monocular depth estimation analysis on KITTI and DDAD datasets.
- Performed range-based evaluations of Metric3D and UniDepth by analyzing performance across different depth intervals using benchmark metrics, discovering a fall off in model performance as distance increases past 20-30 meters.
- Compared full-image and object-masked evaluations on KITTI and DDAD, revealing trade-offs in accuracy between global scene estimation and foreground objects.

**Research Assistant**

May 2025 – Present

*ARTIST Group, University of Michigan*

*Ann Arbor, MI*

- Gathered and organized data by compiling distances from cement plants to neighboring states and their largest cities into a structured dataset using a Python script with OpenRouteService API, improving data accuracy for further analysis.
- Implemented a greedy minimum-cost flow algorithm to model and optimize cement distribution across states based on transportation costs, finding ways of reducing carbon emissions from cement transportation and enhancing environmental sustainability.

## PROJECTS

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**League of Legends Analysis**

Apr. 2025

- Analyzed early-game metrics to identify key predictors of match outcomes, focusing on the first 15 minutes of professional games.
- Built a predictive model using a dataset of 10,000+ pro matches, achieving 74% accuracy in classifying match outcomes after optimizing model hyperparameters.
- Utilized Python, Pandas, NumPy, and scikit-learn for data preprocessing, feature engineering, and model development.

**Isle Royale Wolf & Moose Population Analysis**

Dec. 2024

- Analyzed and visualized univariate and bivariate distributions of wolf and moose population data using Python, pandas, NumPy, Matplotlib, seaborn, and scikit-learn.
- Performed exploratory data analysis, hypothesis testing, confidence interval analysis, and regression modeling to predict population trends, achieving 65-67% accuracy.

**Personal Website**

Mar. 2025

- Created a simple and modern static website with HTML and CSS to showcase projects, experience, and skills.
- Implemented responsive design principles to ensure accessibility and usability across desktop and mobile devices.

## TECHNICAL SKILLS

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**Languages:** C++, Python, Java, HTML/CSS

**Developer Tools:** Git, VS Code, Jupyter Notebooks

**Libraries:** pandas, NumPy, Matplotlib, PyTorch, sklearn