

Ziheng Zhang

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Education

The Ohio State University

B.S. in Computer Science and B.S. Mathematics

Graduated on May 2025

Core Courses

- **Mathematics:** Discrete Mathematics, Combinatorics, Real Analysis, Abstract Algebra, Differential Equations, Calculus, Linear Algebra, Probability and Statistics
- **Computer Science:** Artificial Intelligence, Operating Systems, Machine Learning, Software Development, Data Structures and Algorithms, Computer Networking, Principles of Programming Languages

Research Interest

Fields: Multimodal Learning, AI4Science, Trustworthy AI

Publications

Finer-CAM: Spotting the Difference Reveals Finer Details for Visual Explanation

Zhang, Z.*, Gu, J.*, Chowdhury, A., Mai, Z., Carlyn, D., Berger-Wolf, T., Su, Y., Chao, W.
Method merged into pytorch-grad-cam (12.2k+ GitHub stars)

CVPR 2025

BioCAP: Exploiting Synthetic Captions Beyond Labels in Biological Foundation Models

Zhang, Z., Ma, X., Chowdhury, A., Campolongo, E. G., Thompson, M. J., Zhang, N., Stevens, S., Lapp, H.,
Berger-Wolf, T., Su, Y., Chao, W., Gu, J.

under review

Prompt-CAM: A Simpler Interpretable Transformer for Fine-Grained Analysis

Chowdhury, A., Paul, D., Mai, Z., Gu, J., Zhang, Z., Mehrab, K.S., Campolongo, E.G., Rubenstein, D., Stewart, C.V.,
Karpatne, A., Berger-Wolf, T., Su, Y., Chao, W.

CVPR 2025

Building Machine Learning Challenges for Anomaly Detection in Science

Campolongo, E.G., Chou, Y.T., Govorkova, E., Bhimji, W., Chao, W., Harris, C., Hsu, S.C., Lapp, H.,
Neubauer, M.S., Namayanja, J., Subramanian, A., Harris, P., Anand, A., Carlyn, D.E., Ghosh, S., Lawrence, C.,
Moreno, E., Raikman, R., Wu, J., Zhang, Z.

arXiv

INTR-VAL: INTERpretable TRansformers VALidating Accuracy-Interpretability Trade-off

Paul, D., Chowdhury, A., Zhang, Z., Kitaguchi, D., Berger-Wolf, T., Sakurai, T., Chao, W.

under review

BeetleFlow: An Integrative Deep Learning Pipeline for Beetle Image Processing

Liu, F., Rayeed, S. M., Stevens, S., ... Zhang, Z., Record, S., Stewart, C. V., Chao, W.

under review

Research Experience

Research Assistant, Advisor: Prof. Wei-lun (Harry) Chao

Jun, 2024 – Present

Machine Learning as a Basis Lab, Department of Computer Science and Engineering

Research Assistant, Imageomics, The Ohio State University

Jun, 2024 – Present

Project: Harnessing the Data Revolution (HDR) Anomaly ML Challenge

Teaching Experience

CSE 2321 Teaching Assistant

Sep, 2023 – May, 2025

Foundations I: Discrete Structures TA at OSU, Columbus

Assisted in teaching a total of 7 sections, held office hours, and contributed to exam design.

Academic Service

Anomaly Detection in Scientific Domains Workshop @ AAAI 25

2025

Student organizer

Imageomics: Discovering Biological Knowledge from Images Using AI @ NeurIPS 25

2025

Reviewer

Honors and Awards

Undergraduate Student Research Award (2 given each year)

2025

Department of Computer Science and Engineering, The Ohio State University

Skills

Programming Languages: Python, C/C++, Java, SQL, JavaScript, HTML/CSS

Tools and Frameworks: PyTorch, Git, LaTeX, Markdown, Docker