

Arpita Chowdhury

✉ chowdhury.150@osu.edu

🌐 arpita-chowdhury-osu.github.io | [in](https://www.linkedin.com/in/arpita-chowdhury) [arpita-chowdhury](https://www.linkedin.com/in/arpita-chowdhury) | [G](https://scholar.google.com/citations?user=...) Google Scholar

SUMMARY

My research focuses on **machine learning** and **computer vision**, with specific interests in **Transfer Learning**, **Multi-modal In-context Learning**, **Explainable AI**. Application-wise, currently, I am working on improving **Few-shot Video Object Segmentation** for applications in medical imaging and wildlife.

EDUCATION

- **The Ohio State University** 2021 - 2027(Expected)
Ph.D. and M.S. in Computer Science and Engineering, Advisor: [Prof. Wei-Lun \(Harry\) Chao](#). Columbus, OH
- **University of Dhaka** 2015 - 2019
B.Sc. in Software Engineering Dhaka, Bangladesh

PUBLICATIONS

* DENOTES EQUAL CONTRIBUTIONS AND CO-FIRST AUTHORSHIP.

Conferences

- [C.1] Dipanjyoti Paul, [Arpita Chowdhury](#), Xinqi Xiong, Feng-Ju Chang, David Carlyn, Samuel Stevens, Kaiya Provost, Anuj Karpatne, Bryan Carstens, Daniel Rubenstein, Charles Stewart, Tanya Berger-Wolf, Yu Su, Wei-Lun Chao, [A Simple Interpretable Transformer for Fine-Grained Image Classification and Analysis](#). In *Proceedings of the Twelfth International Conference on Learning Representations (ICLR)*, 2024.

Under Review

- [R.1] Zheda Mai*, [Arpita Chowdhury](#)*, Ping Zhang*, Cheng-Hao Tu, Hong-You Chen, Vardaan Pahuja, Tanya Berger-Wolf, Song Gao, Charles Stewart, Yu Su, Wei-Lun Chao. Fine-Tuning is Fine, if Calibrated, 2024
- [R.1] Jihyung Kil, Zheda Mai, Justin Lee, Zihe Wang, Kerrie Cheng, Lemeng Wang, Ye Liu, [Arpita Chowdhury](#), Wei-Lun Chao. [CompBench: A Comparative Reasoning Benchmark for Multimodal LLMs](#), 2024

INDUSTRY EXPERIENCE

- **Samsung Research and Development Institute** January 2019 - August 2019
Backend Software Engineer, Full-time Dhaka, Bangladesh
 - Led the deployment, and maintenance of robust databases using Node.js and SQL, across multiple projects.
 - Partnered closely with front-end teams delivering demos to showcase project advancements.
- **Samsung Research and Development Institute** January 2018 - June 2018
Intern Software Engineer, Full-time Dhaka, Bangladesh
 - Engineered a secure, robust SQL Server database engine with Node.js.
 - Developed an Android P2P chat app featuring movement-based gesture detection.
- **Softcell Solution Limited** August 2016 - October 2016
Software Requirements Engineer, Part-time Dhaka, Bangladesh
 - Led weekly client meetings to ensure software requirements aligned with project goals.
 - Translated functional and data requirements into detailed data flow diagrams, class, and data models.

RESEARCH EMPLOYMENT

- **Computer Science & Engineering, The Ohio State University** May 2023 - Present
Graduate Research Assistant Columbus, OH
 - **The Ohio State University Medical Center**
 - * Developed 2D detection and segmentation models for pancreas neoplasia (medical imaging)
 - * Developed Few-shot Video Object Segmentation models to enhance early detection of pancreatic cancer (medical imaging)
 - **Imageomics Institute**
 - * Developed an algorithm to localize trait-specific regions in fine-grained classification.
 - * Built self-supervised models for trait tracking in fine-grained species classification. (wildlife)
 - * Created a scalable, interpretable trait discovery method using In-Context Learning.
 - * Designed language-guided models for fine-grained wildlife segmentation. (wildlife)

MENTORSHIP & TEACHING

- **Main Instructor, The Ohio State University** *Semester: Fall 2023*
 - CSE 2221: Software I: Software Components
- **Graduate Teaching Assistant, The Ohio State University** *Semester: Summer 2023*
 - CSE 2221: Software I: Software Components
- **Head Graduate Teaching Assistant, The Ohio State University** *Semester: Spring 2023*
 - CSE 2111: Modeling and Problem Solving with Spreadsheets and Databases
- **Graduate Teaching Assistant, The Ohio State University** *Semester: Fall 2021*
 - CSE 3341: Principles of Programming Languages

SKILLS

- **Programming Languages:** Python, C++, JavaScript, Bash Script, R
- **Machine Learning Tools:** PyTorch, Huggingface, NumPy, Pandas, SciPy, scikit-learn
- **Other Tools & Technologies:** Git, Docker, SQL, Node.js, Android Development