

# ADITI MISHRA

Tempe, AZ

<https://aditi96.github.io> ♦ [amishr45@asu.edu](mailto:amishr45@asu.edu)

## EDUCATION

---

**Arizona State University**

Doctor of Philosophy (PhD)

Major: Computer Science

*June 2019 - Present*

*Current GPA: 3.82/4*

**International Institute of Information Technology - Bhubaneswar**

Bachelor of Technology (BTech).

Major: Computer Science and Engineering

*August 2014 - May 2018*

*CGPA: 8.53/10*

## PUBLICATIONS

---

- Biswas, A., **Mishra, A.**, Majumder, M., Hazarika, S., Most, A., Castorena, J., Bryan, C., McCormick, P., Ahrens, J., Lawrence, E., Hagberg, A. Filling the Void: Data-Driven Machine Learning-Based Reconstruction of Sampled Spatiotemporal Scientific Simulation Data ,*DRBSD 2024* ([link](#))
- Huang, J., Chen, C. **Mishra, A.**, Kwon,B.C., Liu, Z., Bryan, C. On CILP's Ability of Analyzing Fake Images at Large Scale: Why are they fake? *GenAICHI, 2024*
- **Mishra, A.**, Rahman, S., Kim, H., Mitra, K., Hruschka, E. Characterizing Large Language Models as Rationalizers of Knowledge-intensive Tasks ,*ACL 2024* ([link](#))
- Huang, J., Chen, C. **Mishra, A.**, Kwon,B.C., Liu, Z., Bryan, C. On CILP's Ability of Analyzing Fake Images at Large Scale: Why are they fake? *GenAICHI, 2024*
- **Mishra, A.**, Soni, U., Arunkumar, A., Huang, J., Kwon,B.C., Bryan, C. PromptAid: Prompt Exploration, Perturbation, Testing and Iteration using Visual Analytics for Large Language Models, *Under review TVCG* ([link](#))
- Huang, J., **Mishra, A.**, Kwon,B.C., Bryan, C. ConceptExplainer: Understanding the Mental Model of Deep Learning Algorithms via Interactive Concept-based Explanations. *IEEE Vis 2022* ([link](#))
- **Mishra, A.**, Soni, U., Huang, J., Bryan, C. Why? Why not? When? Visual Explanations of Agent Behavior in Reinforcement Learning. *IEEE 15th Pacific Visualization Symposium (PacificVis), 2022* ([link](#))
- **Mishra, A.**, Ginpalli, S., Bryan, C. News Kaleidoscope: Visual Investigation of Coverage Diversity in News Event Reporting. *IEEE 15th Pacific Visualization Symposium (PacificVis), 2022* ([link](#))
- Zhao, J., Xu, S., Chandrasegaran, S., Bryan, C., Du, F., **Mishra, A.**, Qian, X., Li, Y., Ma, K.-L. (2021). ChartStory: Automated Partitioning, Layout, and Captioning of Charts into Comic-Style Narratives. *IEEE Transactions on Visualization and Computer Graphics* (2021). ([link](#))
- Bryan, C., **Mishra, A.**, Shidara, H., & Ma, K.-L. (2020). Analyzing Gaze Behavior for Text-embellished Narrative Visualizations under Different Task Scenarios. *Visual Informatics*, 4(3), 41–50, 2021. ([link](#))
- Huang, J., **Mishra, A.**, Arunkumar, A., & Bryan, C. (2020). TotemFinder: A Visual Analytics Approach for Image-based Key Players Identification. In 2019 IEEE Conference on Visual Analytics Science and Technology (VAST). **VAST Challenge 2019 Honorable Mention.**

- **Mishra, A.**, Hazarika, S., Biswas, A., ,Bryan, C. News Filling the Void: Deep Learning-based Reconstruction of Sampled Spatiotemporal Scientific Simulation Data. (2021) *Under review* ([link](#))

## WORK EXPERIENCE

---

**Fujitsu Research, Pittsburgh** - *Senior Researcher*

*Oct 2024 - Present*

*Advisor: Dr Koichiro Niinuma, Dr Aakar Gupta*

- Working on GenAI assisted tools to enable multimodal video understanding.

**Autodesk Research, Toronto** - *HCI+AI Research Intern*

*May 2024 - Sept 2024*

*Advisor: Dr Fraser Anderson, Dr Frederik Brudy, Dr Qian Zhou*

- Working on LLM assisted authoring tools to enable authors write game play narratives.
- Building a visualization system to help game developers author and version interactive fiction.

**ASU Sonoran Visualization Lab, Tempe** - *Research Assistant*

*Aug 2019 - Sept 2024*

*Advisor: Dr Chris Bryan*

- Developed an AI-driven frontend interface to recommend **prompting** changes for **RoBERTa**, **T0pp 5b**, and **LLaMA-2 13b language models**, incorporating linguistic and contextual cues.
- Reduced prompt engineering **time by 30%** and **increased task accuracy by 10%**, with a **96%** user preference.
- **Tech Stack:** Pytorch, Python, Huggingface, AWS Sagemaker, Databricks

**Stanford Healthcare, Palo Alto** - *Data Science Intern*

*Jan 2024 - May 2024*

*Advisor: Dr Nikesh Kotecha*

- Working on developing tools for summarizing and evaluating longitudinal patient health records (EHR) using **GPT-4 32k** without the presence of ground truths.
- Developing **RAG-based approaches** to medical question answering for clinicians.
- Developed and deployed a visual analytics interface to **debug and self-refine LLM chains**.
- **Tech Stack:** Pytorch, Python, Huggingface, Docker

**Megagon Labs, Mountain View** - *Summer Research Intern*

*May 2023 - Aug 2023*

*Advisor: Dr Sajjadur Rahman*

- Developed a rationalization framework using **GPT-3,4** to **rationalize knowledge augmented models (KGAM)** for question answering task.
- Employed **Docker** and **AWS EC2** instances for model training and inferencing.
- Rationalizations generated **surpassed State-of-the-Art benchmark** with an approval rating of 62%.
- **Tech Stack:** Pytorch, Python, Huggingface, AWS EC2, Docker, Mechanical Turk

**Los Alamos National Lab, Remote** - *Summer Research Intern*

*June 2020 - August 2020*

*Advisor: Dr Ayan Biswas*

- Built a suite of **deep learning models** to reconstruct large unstructured scientific datasets.
- Developed frontend for expert users to visually analyze differences in reconstruction qualitatively and quantitatively.
- **Tech Stack:** Pytorch, Python, D3.js, NodeJS, Flask, React

## TECHNICAL STRENGTHS

---

**Skills:** Visual Analytics, Explainable AI (XAI), Trustworthy AI, Fairness, Reinforcement Learning, Large Language Models, Deep Learning, Machine Learning, MLOps

**Languages:** Python, R, C, C++, MySQL, MLOps

**Frameworks:** Linux, PyTorch, PySpark, Langchain, Keras, Tensorflow, Docker, Django

**Web Technologies:** D3.js, HTML5, CSS3(Grid, Flexbox, SASS), Bootstrap, Node.js Java Script,

jQuery, NodeJS, ReactJS, React Router, Flask, REST API, Svelte  
**Databases and Cloud Platforms:** AWS, S3, SQL(Oracle, MYSQL), NoSQL (Mongo)

## HONORS AND AWARDS

---

SCAI Doctoral Fellowship, ASU	2022
Graduate College Travel Award, ASU	2022
Grace Hopper Scholar - Orlando, Florida	2019

## MENTORSHIP EXPERIENCE

---

- **PhD** - Kaustuv Mukherji (Spring 2023 - Present)
- **Masters** -
  1. Kannak Sharma, Sanidhya Chauhan, Ravindersingh Anand, Niranjan Pai (Spring 2024 - Present)
  2. Manimozhi Shekar, Sushmita Mallick, Riyank Mukhopadhyay (Spring 2023 - Present)
  3. Akashkiran Shivakumar, Natarajan Muthuraman, Adithya Natarajan, Arvind Kuppusamy (Fall 2022)
  4. Ananya Pal, Aniket Devle, Chirag Vartak, Kevin Shah, Saikat Datta, Siddhant Srivastava (Fall 2021)
- **Undergraduate** - Shashank Ginpalli (2019)

## ACADEMIC SERVICES

---

2025 Paper Reviewer, PacificVis (Special Recognition for Outstanding Review)  
2025 Paper Reviewer, CHI  
2024 Paper Reviewer, IUI  
2024 Paper Reviewer, VIS  
2023 Paper Reviewer, VIS