

AGNIBH DASGUPTA

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Education

CURRENT PhD, Computing & Information Science, **University of Nebraska, Omaha**
2018 - 2020 Master of Science, Computer Science, **Utah State University**
2013 - 2017 Bachelor of Technology, Computer Science, **West Bengal University of Technology**

Publications

- 2025 **Watermarking Language Models through Language Models (IEEE TAI)** (*in press*)
- Built a prompt-based LLM watermarking framework without modifying model weights or data
 - Evaluated watermark generation and detection using instruction-tuned LLMs
- 2025 **MAE-SAM2: Mask Autoencoder-Enhanced SAM2 for Clinical Retinal Vascular Leakage Segmentation (AAO)** [🔗](#)
- Trained a classifier on patches of large optic scans to accurately detect areas of leakage
- 2024 **Enhanced Image Watermarking Through Cross-Attention and Noise-Invariant Domain Learning (Imaging Science: Computer Vision, Image and Signal Processing Pattern Recognition)** [🔗](#)
- Improved robustness and scalability of image watermarking under heavy compound noise
- 2024 **Leveraging Artificial Intelligence (AI) to Enhance CS Instruction (FIE)** [🔗](#)
- Utilized multi-modality in deep learning models for mood detection in K-12 classroom videos
- 2023 **Robust Image Watermarking based on Cross-Attention and Invariant Domain Learning (CSCI)** [🔗](#)
- Designed a robust image watermarking scheme using cross-attention (ViT)
 - Trained a self-supervised invariant domain to learn semantic features
- 2022 **Perspective transformation layer (CSCI)** [🔗](#)
- Proposed a lightweight layer that learns 2D projections of 3D views for multiple viewpoints

Present and Past Research

- PRESENT **Invariant Latent Features in Large Language Models**
- Studying model-specific invariant features for robust model attribution
- PRESENT **GAN-Based Auto Augmenter for Realistic Image Augmentations**
- Learning modular auto-augmentations for robust invariant latent representation
- 2022 **Sentiment Analysis on Twitter data on Electric Vehicles**
- Analyzed sentiment with lexical and Word2Vec-LSTM approaches on scraped twitter data
- 2020 **Stock trading optimization using Reinforcement Learning**
- Used a DQN agent to optimize stock trading on the S&P500 index using Google Trends data

Reviewer Service

2022 - 2025 ACCV, Scientific Reports - Nature, Springer Nature

Teaching Experience

2023 - 2024 **Graduate teaching assistant** at University of Nebraska at Omaha
2022 - 2023 **Intern supervisor** at University of Nebraska at Omaha
2018 - 2020 **Graduate teaching assistant** at Utah State University

Technical skills

PROGRAMMING:	Python, Linux, BASH, MATLAB, Git
DEEP LEARNING:	Transformers, GAN, LLM, NLP, Tensorflow, Keras, PyTorch
OTHERS:	OpenCV, CUDA, SQL, HTML, JAVA, C/C++