Thao M. Dang

AI/ML Intern - Summer 2026

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SUMMARY

Third-year Ph.D. student specializing in machine learning, large language models, and multimodal representation learning. Published researcher with experience in algorithm design and large-scale model development. Seeking internship positions focused on advancing foundation models and scalable AI systems.

TECHNICAL SKILLS

Multimodal Representation Learning, Large Language Models (LLMs), Vision-Language Models, Missing-Modality Learning, Transformer and Attention-Based Architectures, Vision Transformers (ViT), Cross-Modal Fusion, Self-Supervised and Weakly Supervised Learning

EDUCATION

University of Texas at Arlington - Ph.D. (GPA: 4.0)	USA (2023 - Current)
Chonnam National University - Master (GPA: 3.89)	South Korea

RESEARCH EXPERIENCE

Research Assistant at SMILE Lab — Aug 2023 – Current

University of Texas at Arlington — Supervisor: Dr. Junzhou Huang

- **Multimodal Representation Learning with Missing Modalities:** Designed self-supervised multimodal learning frameworks to align heterogeneous data with incomplete modality coverage. Proposed global alignment objectives and geometry-aware losses that enable learning unified embeddings from unimodal, bimodal, and partially observed data without requiring fully paired samples. **Outcomes:** 1 paper submitted to CVPR (2026), 3 papers accepted at MICCAI (2025), Front. Med. (2025), ACM BCB (2024). I am the first author of all papers.
- **Foundation Models:** Engineered a two-stage adaptation framework to address fundamental limitations in Multimodal Large Language Models (MLLMs) for composed cross-modal retrieval. Addressed the problem of task-specific models by designing embeddings that generalize across diverse downstream applications without retraining. **Outcomes:** 1 paper submitted to CVPR (2026), 1 paper accepted at ISBI (2025).
- **Guideline-Driven Learning and Prompt Engineering:** Developed a Guideline-Driven Prompt optimization framework that shifts learning paradigm from data-driven training to guideline-driven reasoning with minimal annotated examples. Designed a Retrieval Augmented Generation system to extract and synthesize essential fragments from complex guideline documents into structured, executable prompts. **Outcomes:** 1 paper submitted to ACL (2026); 2 papers accepted at AAAI (2026) and MICCAI (2025).
- **AstraZeneca's challenge:** Applied SAM (Segment Anything Model) and ensemble learning techniques to improve tumor segmentation accuracy. **Outcomes:** achieved 1st place in the first round and top 3 in the second round of the CoSolve Sprints challenge on 3D MRI mouse cancer segmentation. I am in charge of this project.

SELECTED PUBLICATIONS

1. W. Zhong, H. Li, **T. M. Dang**, F. Jiang, H. Ma, Y. Guo, J. Gao, J. Huang , "Learning from Guidelines: Structured Prompt Optimization for Expert Annotation Tasks," AAAI, 2026

2. **T. M. Dang**, H. Li, Y. Guo, H. Ma, F. Jiang, Y. Miao, Q. Zhou, J. Gao, J. Huang, "HAGE: Hierarchical Alignment Gene-Enhanced Pathology Representation Learning with Spatial Transcriptomics," MICCAI, 2025

3. H. Li, Y. Guo, F. Jiang, **T. M. Dang**, H. Ma, Q. Zhou, J. Gao, J. Huang, "Text-Guided Multi-Instance Learning for Scoliosis Screening via Gait Video Analysis," MICCAI, 2025

4. Q. Zhou, **T. M. Dang**, Y. Guo, H. Ma, W. Zhong, S. Na, J. Gao, J. Huang, "Visual-language contrastive learning for computational pathology with visual-language models," ISBI, 2025

5. **T. M. Dang**, Y. Guo, H. Ma, Q. Zhou, S. Na, J. Gao, J. Huang, "MFMF: Multiple foundation model fusion networks for whole slide image classification," ACM BCB, 2024