Jianxiang Dong

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EDUCATION

Stony Brook University, Ph.D. in Computer Science — Aug 2020 – May 2026 (Expected)

George Washington University, M.S. in Computer Science — Aug 2018 – May 2020

PROJECT EXPERIENCE

Research Internship, Xeo Air — Jul 2022 – Dec 2022

- **Bridge Inspection AI:** Design deep learning pipelines for multi-class segmentation and detection of bridge defects. Collect the bridge inspection dataset to evaluate the performance of the models.
- **Interactive AI Training Framework:** Develop an expert-interactive training framework for the AI, where the AI highlights uncertain detections for expert validation and incorporate feedback to iteratively improve model accuracy, leveraging semi-supervised learning and active learning techniques.

Research Project Assistant, Stony Brook University — Jan 2022 – Current

- **Text localization in Videos:** Propose novel deep learning models to localize the start/end timestamps of temporal moments in untrimmed videos that are relevant to query sentences. (Vision Transformer, CLIP, Graph Neural Networks, Contrastive Learning)
- **Annotation-efficient Training:** Develop an annotation-efficient training framework for the Text localization in Videos, which uses only 30% annotations to achieve comparable performance with fully-supervised models using 100% labels. (Weakly/Semi-Supervised Learning, Active Learning, Curriculum Learning)
- **Text-to-video Retrieval:** Propose novel deep learning models to perform video retrieval using queries that match only small video segments. (Vision Language Model, Multiple Instance Learning, Representation Learning)
- **Grounded Video Question Answering:** Developing models to localize the start/end timestamps of a moment in the video that answers a given question, and generate the corresponding answer. (Multimodal LLM such as Qwen2.5-VL, Prompt Engineering, Instruction Tuning)

Collaborative Researcher, Brookhaven National Lab — June 2023 – Current

- **Efficient Spot Detection:** Develop a fast, memory-efficient U-Net–based deep learning model to segment diffraction spots in X-ray images, achieving robust detection under severe noise and ice-ring artifacts.
- **Lossy Data Compression:** Designing an ML-based data compression and reconstruction system (AI model) for macromolecular crystallography diffraction images, aiming to efficiently store large-scale data with minimal information loss and enable accurate reconstruction when needed.

TECHNICAL SKILLS

Python, JAVA, C++, Pytorch, TensorFlow, Git, SQL, ROS, Linux

PUBLICATIONS

- **Boundary-aware Temporal Sentence Grounding with Adaptive Proposal Refinement**
  Jianxiang Dong, Zhaozheng Yin
  Asian Conference on Computer Vision (ACCV), 2022
- **Graph-based Dense Event Grounding with Relative Positional Encoding**
  Jianxiang Dong, Zhaozheng Yin
  Computer Vision and Image Understanding (CVIU), 2024
- **Weakly Semi-supervised Temporal Sentence Grounding in Videos with Point Annotations**
  Jianxiang Dong, Zhaozheng Yin
  IEEE Transactions on Multimedia (TMM), 2025

Full list at: website