Dong Wang

Portfolio LinkedIn GitHub

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EDUCATION

- **Purdue University** West Lafayette, IN
  B.S. in Computer Science; GPA: 3.9/4.0 The Dean List *Jan 2024 - May 2026*
- **Northeastern University (CN)** | *Transferred to Purdue University in Jan 2024* China
  B.S. in Communication Engineer; GPA: 3.8/4.0 *Sep 2022 - Dec 2023*

SKILLS

- **Languages:** C/C++, Python, Java

- **Tools:** PyTorch, Pandas, Numpy, Matplotlib

EXPERIENCE

- **Prof. Yexiang Xue's Lab** | *Research Assistant* *West lafayette* | *Jan. 2024 – Present*
  - **Building Models**: Developed a framework for predicting 2D video sequences using physical laws, involving position information identification, dynamic parameter derivation, motion simulation with a physics engine, and mapping texture with neural networks to generate the final predicted frames.
  - **Improvement**: By leveraging known physical laws, our framework reduces the reliance on large datasets for training and enhances the model's ability to predict complex and abrupt motions. By relying on texture mapping, long-term predicted frames still keep high quality

- **Bank of China** | *Algorithm Intern* *Shanghai* | *Jun. 2023 – Sep. 2023*
  - **Data Analysis**: Analyzed and processed 5,000 customer data entries using Python and SQL, generating monthly reports and predictive results, leading to a 7% increase in customer conversion rates.
  - **Development of Automated Data Processing Tools**: Developed an automated data processing tool using Excel VBA and Python scripts to simplify and accelerate user data handling tasks, reducing data processing time by 9%.

- **Purdue Aerial Robotics** | *Project Intern* *West Lafayette* | *Jan. 2024 – May. 2024*
  - **Label Studio Integration**: Engineered and debugged Label Studio for emergent object recognition
  - **Professional Development**: Enhanced expertise and soft skills by attending events such as Oral Presentation, Technical Documentation, Managing Data with Python, PyTorch Tutorial, and Deep Learning Theory.

PROJECT

- **EchoGen** | *Iterative Optimization System for LLM* *Jun. 2024 – Present*
  - **Object Recognition and Physics Modeling**: Utilized ChatGPT-4 for image-based object recognition and code-based physics modeling to simulate object behavior in videos
  - **Simulation and Optimization**: Integrated a physics engine with iterative optimization techniques to improve accuracy and stability in video predictions.
  - **Refinement Methodology**: Developed a method for refining LLM-generated results using predefined code formats, multiple independent calls, and feedback loops.

- **LLM-Guided GA for function fitting** | *Jun. 2024 – Present*
  - **GA Enhancement**: Improved the Genetic Algorithm (GA) for fitting position functions of objects in video frames by incorporating LLM-guided reasoning.
  - **Precision and Efficiency**: Leveraged ChatGPT-3.5-turbo to generate more accurate initial populations and guide mutations, enhancing fitting accuracy and reducing computation time.
  - **Project Focus**: Combined LLM's inference abilities with traditional GA methods to achieve better function fitting results for objects like circles in video frames.

- **clip_on_sketch** | *Jun. 2024 – Present*
  - **Model Adaptation**: Fine-tuned the CLIP model on a custom dataset of labeled sketches to improve recognition and understanding of sketch-based visual data.
  - **Objective**: Enhanced the pre-trained CLIP model's performance on recognizing and categorizing sketches through targeted training.