

EDUCATION

- **Purdue University** West Lafayette, IN
B.S. in Computer Science; GPA: 3.6/4.0 The Dean List Jan 2024 - May 2026
- **Northeastern University (CN)** | Transferred to Purdue University in Jan 2024 China
B.S. in Communication Engineer; GPA: 3.9/4.0 Sep 2022 - Dec 2023

SKILLS

- **Languages:** C/C++, Python, Java, JavaScript, SQL, HTML, CSS, MATLAB
- **Tools:** PyTorch, LangChain, Scikit-Learn, Pandas, Numpy, Matplotlib, Docker, React, Vue.JS, Django

EXPERIENCE

- **Bank of China** | Algorithm Intern Shanghai | Jun. 2023 – Sep. 2023
 - **Overview:** Contributed to the development of an innovative **symbolic regression algorithm** for **customer service analysis**, modeling and predicting customer satisfaction levels based on **multiple free variables** such as transaction frequency, service feedback, and product usage patterns.
 - **Algorithm Details:** Introduced a **variable control method** that significantly **reduced the search space complexity**, enhancing efficiency in discovering more **accurate nonlinear regression expressions** with multiple independent variables.
 - **Performance:** Resulted in an increase of **20%** in prediction accuracy for customer behavior and preferences, and a decrease of **15%** in the customer churn rate.
- **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, mapping textures with neural networks, and generating final predicted frames using conditional generative adversarial networks (cGANs).
 - **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**.
- **Purdue Aerial Robotics** | Project Intern West Lafayette | Jan. 2024 – May. 2024
 - **Overview:** Contributed to the development of a **goal-conditioned manipulation agent** that utilizes **hand-drawn sketches** to specify desired outcomes for **object manipulation tasks**, such as object rearrangement on a tabletop.
 - **Performance:** Achieved superior semantic alignment and precision in tabletop tasks, reducing errors in goal achievement and improving policy robustness to sketch detail variations and visual distractions by up to **2.3X**.
 - **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 API for image-based object recognition and code-based physics modeling to simulate object behavior in videos
 - **Refinement Methodology:** Developed a method for refining LLM-generated results using predefined code formats, multiple independent calls, and feedback loops.
 - **Simulation and Optimization:** Integrated a physics engine with iterative optimization techniques to improve accuracy and stability in video predictions.
- **SmartGA** | LLM-Guided GA for function fitting Jun. 2024 – Present
 - **GA Enhancement:** Using LLM to guide the direction of the evolution of the Genetic Algorithm 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.
- **ArtTune** | Fine-tuning the CLIP model on a custom dataset of sketches 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.