



Yun Hong

COMPUTER SCIENCE · FUDAN UNIVERSITY

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Education

FDU(Fudan University)

B.S.CANDIDATE IN COMPUTER SCIENCE

Shanghai, China

Sep. 2023 - PRESENT

Completed research on risk maps for autonomous driving at MagicLab, Fudan University, under the guidance of Wenchao Ding. The work has been accepted for publication in IEEE Robotics and Automation Letters (RAL).

UTA(University of Texas at Austin)

EXCHANGE STUDENT IN COMPUTER SCIENCE

Austin, Texas

Aug. 2025 - Dec. 2025

Completed research on multi-task active perception for robotic information gathering at The University of Texas at Austin, under the guidance of Junhong Xu. The work contributed to the development of multi-task partially observable simulation benchmarks and the evaluation of active perception policies.

Skills

Machine Learning

Solid theoretical foundation; Proficient in supervised/unsupervised learning, RL, IL, model evaluation & generalization.

Deep Learning

CNN/RNN/LSTM, Diffusion Models, spatiotemporal modeling; Skilled in PyTorch for model design, training & fine-tuning.

LLM & Vision-Language

LLaMA series fine-tuning, vision-language action (VLA) models, reasoning & reflection mechanism design.

Robotics & Perception

Active perception, multi-task POMDP, information gathering, long-horizon robotic manipulation.

Computer Vision

Multi-view Geometry, 3D Reconstruction, object detection & segmentation, autonomous driving perception.

Autonomous Driving

Motion planning, trajectory prediction, decision-making, risk field modeling & prediction.

Algorithms

Solid data structure & algorithm foundation; Proficient in algorithm design, analysis & optimization.

Programming

C, C++, Python, LaTeX

Languages

Native Chinese, Fluent English

Research Experience

Multi-Task Active Perception for Robotic Information Gathering

Austin, TX, USA

RESEARCH ASSISTANT

Sep. 2025 - Dec. 2025

- Conducted research under the supervision of Junhong Xu, focusing on active perception and efficient information gathering under partial observability for multi-task robot deployment.
- Constructed a set of multi-task partially observable simulation benchmarks with two core settings: unknown object physical properties and unknown spatial locations.
- Implemented and compared three training paradigms including imitation learning, reinforcement learning, and IL-based pretraining with RL fine-tuning on finetuned VLAs.
- Summarized and analyzed related works on robotic manipulation exploration, IL-RL hybrid policies and long-horizon POMDP environment benchmarks.

Learning RiskMap for Autonomous Driving in Partially Observable Environments

Shanghai, China

ACCEPTED BY IEEE ROBOTICS AND AUTOMATION LETTERS (RA-L)

Oct. 2024 - May. 2025

- Engineered risk field representations using advanced spatiotemporal modeling techniques.
- Developed and implemented realistic traffic scene generation leveraging diffusion models combined with gradient optimization.
- Designed and actualized a lightweight neural network for efficient risk prediction.

Research on ChatGPT-o1 model reproduction and reflection ability improvement

Shanghai, China

RESEARCH ASSISTANT

Sep. 2024 - Jun. 2025

- Under the guidance of Professor Xuanjing Huang from Fudan University Natural Language Processing Group.
- By constructing, evaluating, and optimizing reflection datasets, we study how to introduce self-inspection and correction mechanisms into model reasoning to improve the performance of models in complex tasks.
- Responsible for the synthesis and training of self-critic data. Based on Llama3.1-8b-instruct, generate "reflection" answers from wrong to right, and use different strategies to generate diverse data of the reflection process, such as constructing complex reflection paths based on tree search reasoning, and verifying premises from conclusions through reverse reasoning. Use gsm8k test set to evaluate the performance of different methods.

Project Experience

🕒LCDP-Sim: Language-Conditioned Diffusion Policy

Austin, Texas

INDEPENDENT DEVELOPER

Dec. 2025 - PRESENT

- Developed an end-to-end **Vision-Language-Action (VLA)** system utilizing **Diffusion Policy** to map RGB images and natural language instructions into robotic control signals.
- Integrated **CLIP** text encoder for semantic understanding and employed a U-Net-based DDPM/DDIM architecture for high-fidelity action generation.
- Implemented **Action Chunking** (predicting 16-step trajectories) to mitigate error accumulation and enhance motion smoothness in long-horizon tasks.
- Built a complete pipeline for data collection, distributed training, and closed-loop evaluation in **ManiSkill2** simulation.

🗺️Map Navigation

Shanghai, China

INDEPENDENT DEVELOPER

Dec. 5, 2024 - PRESENT

- This project combines OpenStreetMap data with Gaode Maps API to provide accurate routing and location search capabilities.
- Implemented various extended features including hybrid point selection (manual map clicks or location search), detailed route information display and support for different road types (motorway, trunk, etc.) with speed limit considerations.

🧠NeuralStyle: A Modular Neural Style Transfer Project

Shanghai, China

INDEPENDENT DEVELOPER

Jun. 2025 - PRESENT

- Developed a neural style transfer toolkit in Python with clear modular separation for maintainability and extensibility.
- Implemented batch processing enabling automated multi-image / multi-style workflows.
- Designed a configurable pipeline centralizing hyperparameters (e.g., image size, optimization steps, style/content weighting) to streamline experimentation.
- Built an interactive web interface allowing users to upload content and style images and generate stylized outputs directly in the browser.
- Provided runnable entry points and a reproducible dependency specification.

Internship Experience

ByteDance (Douyin R&D, Quality Assurance, Live Streaming & Media Stream)

Shanghai, China

TEST DEVELOPMENT ENGINEER INTERN

Jan. 2026 - Present

- Refactored and expanded internal inspection and test cases, boosting accuracy from 89% to 100% and coverage from 95% to 98%.
- Developing an LLM-powered efficiency tool for automated QA workflows, currently in progress.

Honors & Awards

INTERNATIONAL

2024 **Finalist**, Water, sanitation, and hygiene for the prevention and care of neglected tropical diseases

Geneva,
Switzerland

DOMESTIC

2025 **Outstanding Work Award**, The 5th Meituan Business Analysis Elite Competition

Shanghai, China

2024 **3rd Prize**, China Undergraduate Mathematical Contest in Modeling, 2024

Shanghai, China

2023 **Finalist**, Full-stack AI development engineer skills training by NVIDIA

Shanghai, China