

# Yixuan Huang

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## Education

**B.S. in Electronic Information Engineering** | GPA: 91.24/100

Wuhan University of Technology (WHUT)

Sep. 2022 – Present

Wuhan, China

### Core Courses

- **Programming Fundamentals:** Introduction to C Programming (98), Computer Fundamentals & C Programming Lab (100)
- **High-Level Programming:** Python Programming (97.2), Java Programming (95.33)
- **High-Performance Computing:** CUDA High-Performance Scientific Computing (96)
- **Mathematical Foundations:** Probability and Mathematical Statistics (91.4)
- **Circuits and Systems:** Circuit Theory I & II (95.6, 97.4)

## Research Interests

I am interested in learning-based robotics, focusing on robotic manipulation and physical interaction. My research aims to enable robots to acquire skills through self-supervised and trial-and-error learning, integrating visual, tactile, and proprioceptive inputs for robust perception and control, while leveraging classical algorithmic and planning methods for efficiency and reliability. Currently, I am working on algorithmic planning for robotic manipulation tasks. I am also broadly interested in autonomous systems that can operate reliably under uncertainty.

## Experience

**Research Assistant, Rutgers University (Remote)**

Jun. 2025 – Present

*Research Focus: Multi-Robot Task Planning for Industrial Rearrangement, Robotics*

Advisor: Prof. Jingjin Yu

**Research Assistant, Shanghai Artificial Intelligence Research Institute**

Jul. 2025 – Oct. 2025

*Research Focus: Robotics Perception, 3D Reconstruction, Manipulation*

Advisor: Dr. Tianrui Shen

**Research Assistant, Huazhong University of Science and Technology**

Apr. 2025 – Jul. 2025

*Research Focus: Multi-Modal Robot Learning for Manipulation in Open Environments*

Advisor: Prof. Guohui Li

**Research Assistant, Wuhan University**

Oct. 2024 – Mar. 2025

*Research Focus: Computer Vision & Image Recognition*

Advisor: Prof. Ming Peng

**Team Leader, China College Engineering Practice and Innovation Competition**

Jun. 2023 – Nov. 2023

*Provincial First Prize, Ranked 2nd Nationwide*

Supervisor: Prof. Yi Zhong

## Projects

**Pathology Slide Classification & LLM Distillation**

2025

- Engineered CNN- and ResNet18-based pipelines for automated pathology slide classification, achieving 88% balanced slide-level accuracy.
- Designed and executed large language model distillation workflow, fine-tuning with slide-level metadata.
- Demonstrated effective transfer of contextual information from large models to lightweight classifiers for downstream tasks.

**Pocket Frequency Meter**

2025

- Engineered portable frequency meter using STC89C52RC microcontroller, integrating hardware design and

embedded firmware.

- Achieved  $\pm 0.1$  Hz measurement accuracy across 100+ test signals.

### Electronic Password Lock System

2025

- Designed and implemented FPGA-based electronic password lock system for secure access control.
- Developed finite-state machine control logic supporting password reset and verification, validated across 50+ test cases.

### Digital Baseband Transmission System Simulation

2024

- Constructed digital baseband transmission model using ideal low-pass and raised-cosine filters to satisfy zero ISI conditions.
- Analyzed system behavior in time and frequency domains and quantified noise impact using eye diagrams under AWGN.
- Developed a complete simulation framework for signal processing visualization and performance analysis, validated over 1,000 signal instances.

*Additional hands-on experience includes electronic music box, 21-key electronic keyboard, multi-functional quiz buzzer, and other embedded/hardware design projects. A full portfolio is available on my [personal website](#).*

## Skills

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**Programming Languages:** Python, C/C++ , Java, MATLAB, Assembly Language, VHDL, HTML

**Data Analysis & Machine Learning:** Machine Learning, Deep Learning, Reinforcement Learning; NumPy, scikit-learn, OpenCV, TensorFlow, PyTorch, Matplotlib

**Robotics & Simulation:** MuJoCo, ROS

**Hardware & Embedded Systems:** Circuit Design, Microcontroller Programming, FPGA, Soldering, PCB Design, PCB Fabrication Tools

**Software Tools:** Linux, Git, LaTeX, CUDA, Jupyter Notebook

## Certifications

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- **Machine Learning Specialization** (Supervised, Unsupervised Learning, & Deep Learning)  
DeepLearning.AI & Stanford University (Instructor: Andrew Ng), Coursera
- **Fundamentals of Accelerated Computing with CUDA C/C++**  
NVIDIA Deep Learning Institute

## Awards

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**Provincial First Prize**, Ranked 2nd Nationwide 2023  
China College Engineering Practice and Innovation Competition

**Outstanding Academic Excellence Scholarship**, First Prize 2023, 2024, 2025  
Wuhan University of Technology

**Outstanding Student Award** 2023, 2024, 2025  
Wuhan University of Technology

## Service

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**Director of Student Affairs** 2022 – Present  
School of Information Engineering, Wuhan University of Technology

**Executive Director** 2022 – 2025  
Student Union, Wuhan University of Technology

**Class President** 2022 – 2025  
School of Information Engineering, Wuhan University of Technology