

Jinming Ren

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EDUCATION

University of Electronic Science and Technology of China (UESTC) Sept 2022 — Present

University of Glasgow, Dual Degree Program Sept 2022 — Present

- **Major:** Electrical & Communication Engineering BEng; GPA: 3.87/4.0, Ranking: 2/164 (Top 1.2%).
- **Relevant Coursework:** Signals and Systems, Stochastic Processes, Artificial Intelligence and Machine Learning, Information Theory, Electrodynamics, Digital Circuit Design, etc.
- **Online Course:** Abstract Algebra, Complex Analysis, Differential Geometry, Control Theory, etc.

RESEARCH & PROJECTS

System-level Co-Design of RISC-V Accelerators for TinyML at the Edge Ongoing

Research Assistant, Professor Yun Li, UESTC

- Designing, implementing and verifying hardware-accelerated depthwise-separable convolution (DSC) and attention kernels in ViT using C++ with RVV intrinsics that are adaptable and efficient for edge computing in Coral NPU framework open-sourced by Google and VeriSilicon.
- Exploring CUDA-like DSL to RVV ISA compiler for seamless deployment of TinyML models on RISC-V-based NPUs.

YOPO: You Only Pick Once – Light Object Tracking Algorithm Sept 2025

- Developed a lightweight object tracking algorithm that requires only one initial selection, successfully mitigate the intense computation of DNN forward propagation on every frame.
- Utilized NCC-based matching, adaptive kernel updating, capable of tracking objects with gradual color and size changes.

Control and Computer Vision for Autonomous Quadcopter System Feb 2025 — Jun 2025

- Developed an automatic quadrotor aircraft for objection detection, route planning, and closed-loop flight control.
- Used ROS2 and OpenCV library to implement originally designed computer vision algorithms for real-time landing area detection.

Design and Visualization of a Complete Single-cycle RV32I CPU Core Jan 2025 — Mar 2025

- Designed and open-sourced an single-core, single-cycle RISC-V 32-bit CPU from scratch in Verilog for RTL simulation and in Digital Software for working principle visualization.
- Built a complete datapath including PC, fetcher, decoder, register file, ALU, LRU-based L1 cache, etc., compatible with basic peripherals: GPIOs, IIC, UART, etc.
- Implemented a boot program in RISC-V assembly, basic delay and gpio libraries in C. Compiled and simulated using RISC-V GNU toolchain.

CNN for Embedded Systems Feb 2024 — May 2024

- Integrated a convolutional neural network (CNN) into STM32 MCU using C in MbedOS.
- Enabled smart fall detection, body temperature monitoring and real-time data visualization for patients.

RELEVANT SKILLS

IT Skills	Latex, Quarto Markdown, Typst, Manim, Github.
Programming Language	C/C++, Python, RISC-V Assembly, Verilog, Makefile, Bazel, Chisel, Matlab.
	Native Chinese, Fluent English.

AWARDS

Top Academic Scholarship of UESTC (Top 5%) Dec 2023, Dec 2024

China National Scholarship (Top 3%) Dec 2024

First Prize: 7th National College Art Exhibition and Performance Sept 2024