

HUIHENG LI

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EDUCATION

B. Eng. University of Warwick 2025 - 2028
Department of Computer Science, Major in Computer System Engineering

RESEARCH EXPERIENCES

A Robust and Adaptive Intrusion Detection Framework via Honeynet-Enhanced SAORF and LLM-RL Closed-Loop Optimisation

Project Initiator & First Author | Python, Machine Learning, LLM, Reinforcement Learning, Model Finetune

- Designed a lightweight intrusion detection system for edge networks using simulated annealing-optimised random forest (SAORF).
- Implemented a closed-loop reinforcement learning mechanism with LLM for adaptive model tuning, maintaining $F1=1.000$ under 30% noise.
- Improved model F1-Score from 0.924 to 0.972 while reducing computational overhead.
- The framework of the project is awarded *China National Computer Software Copyright*

Balancing Privacy and Compliance: Designing an Auditable Cross-Chain Transaction Framework Based on Zero-Knowledge Proofs

Project Initiator & Co-Designer | Blockchain, Cryptography (ZKP, VSS), Smart Contracts, Regulatory Technology

- Conceived and initiated a research project to resolve the inherent conflict between privacy and compliance in cross-chain transactions.
- Led the design of a novel protocol that innovatively integrates zero-knowledge proofs (for privacy) with verifiable secret sharing (for selective auditability), establishing a new technical paradigm.
- Directed the research on aligning the protocol with international regulatory standards (FATF, MiCA), ensuring its practical applicability in compliant DeFi ecosystems.
- Oversaw the evaluation of the framework's legal compatibility and technical feasibility, translating conceptual design into a viable implementation pathway.

INTERNSHIPS

Software Testing Intern July 2025 - Aug 2025
Gosuncn Technology Group Co., Ltd. *Guangzhou, China*

- Responsible for software functional and security testing, designing test cases and submitting bug reports to ensure the quality of version iterations.
- Assisted in optimizing deep learning models and completing data annotation and enhancement.
- Configured the company's integrated host system environment, pre-installed development kits, and optimised deployment efficiency.

Operations and Maintenance Intern June 2025
Guangdong Guangya High School *Guangzhou, China*

- Responsible for daily inspection and maintenance of the school's information technology equipment, ensuring the normal operation of teaching equipment.
- Provided on-site audio and video technical support for events, debugging audio, lighting, and projection equipment to ensure the smooth running of events.
- Responded promptly to network outages, troubleshooting and coordinating solutions to improve campus network stability.

PROJECTS

CIE A-Level Computer Science Pseudocode Interpreter Developed the core architecture of an interpreter in Python for a subset of the CIE A-Level pseudocode, building a recursive descent parser from scratch to process control structures, procedures, and fundamental data types. ([GitHub Link](#))

Lively Kitchen-2025CiGA Game Jam Brainstormed the game theme and structure with members, and worked as the programmer to design motion mechanics and operation logic. The game ranked 10th out of 50 games in the exhibition section.

AWARDS

High School Mathematical Contest in Modelling (HiMCM)

Finalist Prize(Top 7%)

VEX VRC Asia Open Championship Finals

Second Awards(worked as director)

Waterloo Mathematics Competition-Galois

Distinction

SKILLS

TECHNICAL SKILLS

Programming Python, Java, C++

OS & Tools Linux, Windows, Git

Research Methods Machine Learning, Data Analysis, Model Finetune

LANGUAGES

Chinese Mandarin (Native), English (IELTS 7.0), Cantonese (Fluent)

LEADERSHIP

- Worked as Student Ambassador in Guangdong Guangya High School, As the person in charge of the school's coffee house (Yacafe) /student representative, I welcomed a delegation of ambassadors from ten European countries to China, several exchange groups from German and American middle school students, and overseas college admissions officers to the school, and shared the history and culture of the school and Yacafe with the delegations.
- Worked as Vice President and Minister of Programming Department at GY Robotics Club. I was in charge of organising and leading club members to attend world robotic competitions as a team leader. I also design and programmed robots for the team.