Lu Sicheng Isabella

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SUMMARY

Computer Science graduate researching embodied multimodal AI, supported by solid expertise in systems and embedded engineering. Proven robotics builder with a track record of developing competition-winning marine robots and thriving in high-pressure, team-driven R&D settings.

* ***Eligible for U.S. H-1B1 work visa with reserved quota for Singapore Citizens***

EDUCATION

National University of Singapore

Master of Computing (Computer Science Specialisation) Aug 2024 - Present

- *Research Area: Adversarial Robustness of Vision Language Action (VLA) Models on Robotics Manipulation*
- *Scholarship: National Cybersecurity R&D Lab Scholarship (NCLS)*
- *Related coursework: CS5231 System Security, CS5223 Distributed Systems, CS5250 Advanced Operating Systems*

Bachelor of Engineering (Honours) in Computer Engineering Aug 2020 - July 2024

- *Champion of RobotX2024 Autonomous Challenge in Florida, US; Champion of RoboSub2023 in California, US*
- *Certificate of Service-Distinction (AY20/21) as cohort representative*

Hwa Chong Institution **Jan 2018 - Dec 2019**

PROJECT EXPERIENCE

Graduate Researcher, School of Computing, NUS Jan 2025 - Present

- Developed and formulated one of the first adversarial attack frameworks targeting Vision-Language-Action (VLA) models, focusing on OpenVLA agents trained in the LIBERO benchmark and evaluated in ManiSkill simulation environments

Full-stack Robotics Developer, Bumlebee Autonomous System, NUS Aug 2021 - Jan 2025

- Designed and fabricated custom marine robot subsystems, including schematic design, PCB layout, testing, and integration with motor control, sensors, and embedded firmware
- Developed and optimized autonomy stack (perception, navigation, mission control) for robotic competition tasks using ROS2, Nav2 and Behavior Trees.
- Collaborated across mechanical, electrical and software teams in a high-intensity R&D environment

Linux Kernel Programming, CS5250 Advanced Operating Systems Jan 2025 - Aug 2025

- In-depth understanding of Linux kernel source code, including scheduling, file systems, memory management subsystems, and compiling custom kernel modules

LunarLander++, CS5446 AI Decision Planning Feb 2025 - Apr 2025

- Benchmarked various RL algorithms including DQN, A2C, PPO, SAC, on OpenAI Gym environment with domain randomisation for gravity, wind, and sensor loss

WORK EXPERIENCE

Digital Innovation Intern, Airbus Jan 2023 - Jun 2023

- Developed a patented mobile vision model detection prototype for automated Airport Ground Operation
- Introduced agile practices to the digital team by setting up Scrum and sprint workflows; established Jira, Confluence, and Git processes for team collaboration and project tracking

Teaching Assistant, NUS CS1010 Programming Methodology Aug 2022 - Dec 2022

- Led weekly C programming labs and tutorials for undergraduates, providing code reviews and hands-on guidance
- Assessed student submissions and delivered feedback to strengthen foundational programming skills

LEADERSHIP EXPERIENCE & CCA

President, ECE 8th Undergraduate Student Council Jun 2021 - Jun 2022

- Led a 36-member team to organize ECE Freshmen Orientation, Career Fairs, and Graduation events
- Coordinated industrial partnerships with 30+ companies, including Dyson, Micron, AMD and Huawei

Director, NUS Chinese Calligraphy Club May 2021 - May 2022

- Managed weekly sessions and cultural showcases for calligraphy and Chinese ink painting