Ruichen Li

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Education

The University of Sydney Feb. 2024 – Jul. 2024
Exchange Student in Computer Science *Sydney, Australia*

Nanjing University Sep. 2022 – Jun. 2026
B.S. in Computer Science (Honors), GPA: 4.5/5.0 *Nanjing, China*

University of California, Berkeley Jun. 2023 – Aug. 2023
Summer Session in Computer Science, GPA: 4.0/4.0 *Berkeley, United States*

Coursework

Courses: NLP, Software Engineering, Cloud Computing, Computer Systems, Data Structures & Algorithms, Computer Security, Discrete Math, Linear Algebra, Calculus, Physics, Probability & Statistics, Number Theory
Awards: South Pacific Algorithmic Rounds Bronze (2x), NOIP Silver (2x), USACO Gold (2x), CMC Bronze

Skills

Programming: C/C++, Python, Go, Java, MATLAB, JavaScript/TypeScript, HTML/CSS, LaTeX
Tools: AWS, Git/GitHub, Unix Shell, Docker/Kubernetes, Mysql/MongoDB

Experience

CSIRO (Commonwealth Scientific and Industrial Research Organisation) Mar. 2024 – Present
Industrial Trainee *Sydney, Australia*

- Spearheaded the 'Validating Deep Learning Models with Minimal Supervision' project, focusing on fine-tuning large models for video generation verification.
- Utilized fine-tuning techniques, including LoRA, along with CNN and LSTM, to optimize model accuracy.
- Conducted computational tasks on Australia's supercomputer, Pawsey, demonstrating proficiency with high-performance computing and Linux server environments.

China Mobile Jan. 2024 – Mar. 2024
Network Security Intern *Remote*

- Constructed a shooting range environment to monitor and analyze network traffic and system logs, detecting and responding to abnormalities promptly.
- Conducted penetration tests and simulated attacks to identify vulnerabilities and assess system defenses.
- Developed and implemented defense strategies, enhancing the security of systems against potential attacks.

Haiweisi Marine Information Service Co. Jan. 2024 – Feb. 2024
Winter Developer Intern *Nanjing, China*

- Utilized MATLAB to analyze meteorological and oceanic data, supporting research and development initiatives.
- Developed the company's homepage using JavaScript, enhancing online presence and user interaction.
- Managed and promoted Haiweisi's WeChat account, increasing visitors by 34% through strategic contents.

Projects

Fruit Freshness Classifier | *TensorFlow* Jan. 2024 – Jan. 2024

- Developed a computer vision model to classify fresh versus rotten fruits using transfer learning.
- Trained a color image analysis model, creating an efficient data generator for small dataset optimization.
- Employed feature extraction and transfer learning techniques to enhance model training efficiency.

Introduction to Computer System Course Project | *C* Sep. 2023 – Dec. 2023

- Engineered a virtual machine based on the RISC-V architecture, focusing on functionality, debugging, and performance monitoring.
- Executed CPU instruction sets (base, M extension, CSR) and established device-to-memory mappings for various peripherals (serial, clock, keyboard, VGA).
- Designed system calls, basic C library functions, a simple file system, and multimedia libraries to support the execution of client programs like "Immortal Sword and Sorcery."
- Integrated time-sharing multitasking capabilities on a single-core CPU.

Coding Progress Tracker for VS Code | *Python, TypeScript* Jun. 2023 – Aug. 2023

- Designed and developed a VS Code extension that monitors and analyzes student project progress, providing timely feedback to encourage ongoing engagement and completion.
- Engineered the extension's frontend using TypeScript for seamless integration and user experience within VS Code.
- Programmed the backend in Python, leveraging sklearn to train models for predicting homework completion rates.

Secure File Sharing System | *Go* Jul. 2023 – Aug. 2024

- Engineered cryptographic security solutions including public key encryption, HMAC and digital signatures.
- Designed IND-CPA secure file operations to ensure confidentiality in save, load, append and overwrite actions.
- Developed a robust authentication system for secure file sharing and revocation without compromising integrity.
- Created and conducted tests to identify vulnerabilities, fortifying the system against potential breaches.

Interactive Science Outreach Website | *TypeScript, HTML/CSS* Feb. 2023 – Apr. 2023

- Designed and programmed a visually appealing and interactive science outreach website.
- Deployed the website to effectively engage and educate the public on scientific concepts, accessible at LCP Land.
- Integrated multimedia content and interactive quizzes to enhance user experience and learning outcomes.

Extracurricular

Language Enthusiasts 2018 – Present

Japanese C1, Korean A2, Spanish A1, National Olympiad in Linguistics Silver