

# Leong Ko Ryan Jasper

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Driven computer engineer passionate about integrating software and hardware to build solutions to tackle tomorrow's problems. Interested in Automation, Sustainability, and FinTech.

## EDUCATION

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### National University of Singapore

Aug 2023 – Present

*Bachelor of Engineering (Honors), Major in Computer Engineering*

*Singapore*

- GPA: 4.79/5.0
- Enrolled under the Engineering Scholars Program

## EXPERIENCE

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### Research Intern

May 2024 – Present

*A\*Star – National Metrology Centre*

*Singapore*

- Engineered a sophisticated frequency synthesizer using SystemVerilog and GOWIN IP cores to achieve precise 1PPS synchronization with Cesium Atomic Clocks, utilizing the advanced capabilities of the FPGA Tang Nano 20k, achieving precision of 6.5-9.0 ns.
- Implemented UART communication module for adjustment of waveform characteristics using keyboard commands from an external computer and Bluetooth module (HC-05).
- Developed Autonomous Data measurement server to collect data from CNT-90XL and perform data analysis and visualisation using PyVISA, Pandas, Dash and the OrangePi 3B+.
- Executed comprehensive testing and data collection using the CNT-90XL Microwave counter to analyze frequency stability using Overlapping Allan Deviation using TimeView and Stable32.

### Product Owner Intern

Apr 2023 – Jun 2023

*HolyWally*

*Singapore*

- Spearheaded development of robust internal tools using Python, SQL, and Superblocks for seamless integration with PostgreSQL DB, HolyWally Backend and Third Party provider's APIs to allow easy access to crucial data for the product and sales team, over 100 users all in one single dashboard.
- Conducted comprehensive QA testing, designing API calls using Postman to interface with third-party APIs (episode6), streamlining the UAT process by working closely with the backend development team to resolve bugs.
- Wrote more than 30 Jira tickets with precise technical requirements and acceptance criteria, streamlining task assignment for developers to expedite feature implementation and bug resolution.
- Revamped and authored 10 pivotal articles in the company's documentation using Docusaurus (MDX) and Azure DevOps, enhancing knowledge sharing and operational efficiency.

## PROJECTS

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### QuickSheet | *Electron, TypeScript, React, Tailwind, Jest*

May 2024 – Present

- Cross-platform word processor built to aid STEM students in building quick and beautiful cheat sheets.
- Supports Code Syntax highlighting, Tables, Rich Text Editing, Image Importing, and LaTeX equations.

### RyNance | *Python (Flask), JS (ChartJS), CSS, HTML5 (Bootstrap 5), SQLite3*

Mar 2023 – Mar 2023

- Educational financial literacy web application built to help Singaporean youth learn about personal finance and plan for retirement.
- Features: Retirement Calculator, Budget Planner, and Undergraduate Salary Comparison Tool integrated with SingStat API.

## SKILLS

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**Software Skills:** C/C++, JavaScript (React/Electron), SQL (PostgreSQL), Python (Flask/Django), Git, VSC, Linux

**Hardware Skills:** Verilog/SystemVerilog, Microcontrollers/FPGA (Arduino, RaspberryPi, Basys-3, Tang Nano), SLAM/Lidar, RTL Design, Circuit design, Soldering

**Non-Technical:** Agile (Jira), Product Development, BrowserStack

**Interests:** Cycling, Football, Playing Guitar, Dota2

**Portfolio Website:** <https://portfolio-version2-five.vercel.app/>