

RAVYU

Undergraduate CS Student

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🏠 Ravyu 🔄 RavyuS 📊 GPA: 4.0/4.0

WORK EXPERIENCE

Software Design Studio Course Assistant

UIUC CS Department

📅 Jan 2021 – May 2021 📍 Champaign, IL

- Taught students on programming fundamentals: Object Oriented Programming (C++/Java), black box testing, build automation tools (Maven/Cmake)
- Assessed and graded students code on weekly projects, with an emphasis on strong programming practices (modularity, object decomposition, encapsulation, documentation, testing).
- Hosted weekly Code Review sessions to facilitate discussion on programming practices with students.

Backend Developer

CloudZen Pte., Ltd.,

📅 Jan 2018 – Apr 2018 📍 Singapore

- Developed backend infrastructure for the Company's flagship project—Gamecloud. Setup a Leaderboard database (MongoDB + Redis) that is linked via API endpoints defined in Azure Functions.
- Designed network pipeline for latency sensitive applications like game streaming over both cellular and WAN connections. Contributed to the UDP socket programming team.
- Spearheaded virtualization infrastructure setup with focus on performance for gaming. The virtualization infrastructure was built on a KVM-based virtualization platform, with Proxmox used for cluster management.

LEADERSHIP

Lead Programmer

ACS(I) Robotics Club

📅 Jan 2016 – Nov 2017 📍 Singapore

- Led club as head programmer during competitions (VEX Worlds, RoboCup). Coordinated team efforts with weekly meetings leading up to the competitions, and guided junior members along the way.
- Programmed microcontrollers in various instruction sets (ARM Cortex-M, Atmel AVR) in embedded C and assembly.
- Designed custom circuit boards, experienced in soldering and EAGLE Design. Also picked up mechanical skills (sawing, drilling) for robot construction.

Air Warfare Officer

Singapore Armed Forces

📅 Apr 2018 – Apr 2020 📍 Singapore

- Trained as Air Traffic Control (ATC) Officer; in charge of recovering air assets in the event of national emergencies.

NOTABLE AWARDS



VEX Worlds

2017 Division Finalist
2016 Division Quarter-Finalist



VEX Skills Programming Qualifiers 2016

2nd in World rankings (out of 4000 teams)

TECHNICAL SKILLS

C/C++



Java



LAMP stack + AWS



React-Native



Embedded Systems



Autonomous Systems



TensorFlow/PyTorch



COURSEWORK

Discrete Structures

Data Structures (C++)

Computer Architecture

Programming Studio (Java/C++)

Calculus I-III

- Led ATC operations briefs on a weekly and daily basis. Managed communication between various base squadrons during day-to-day operations.
- Completed service on April 10th with the rank of Lieutenant.

President

UIUC Singapore Students Association

📅 Mar 2021 –

📍 Champaign, IL

PROJECTS

Air Traffic Control Currency Tracker

Republic of Singapore Air Force

📅 Apr 2019 – Apr 2020

📍 Singapore

- Revamped Air Traffic Controller eligibility tracking system in Squadron to ensure controllers' skills remain current, thus preventing ineligible controllers from controlling.
- The project made use of the Telegram Bot framework for the frontend and Google Apps Script (JavaScript) for the backend, with a focus on high-availability and security to meet operations-sensitive demands.
- Gave monthly progress presentations to base commanders, showcasing product demo builds.

Open Source Initiative

ACS(I) Robotics Club

📅 Nov 2016 – Apr 2017

📍 Singapore

Led an initiative to switch to open source robotics platforms for use in Competitions.

- Conducted workshops on how to read instruction set manuals for Arduino (AVR) and datasheets for sensors/electronics, with an emphasis on appreciation for open source culture.
- Taught basic computer architecture concepts (ALUs, registers, IO) to junior members.
- Setup and maintained communication channels between the software team, hardware team and part suppliers.

Self-Hosted cloud server

📅 Ongoing

Converted my desktop to a cloud server for personal use.

- Running full LAMP stack with Nextcloud (Cloud storage), Gitea (Git server), SSH, VNC.
- Utilized Linux OS specific tools (network management, bash scripting, systemd, software RAID) to setup the hosting platform.
- Working on secure remote WOL (Wake on LAN) solution.

OTHER ACHIEVEMENTS



DSTA Code_EXP 2020 Finalist

National mobile app hackathon; University category



DSTA TIL 2020 Finalist

Machine Learning Robotics based hackathon; University category



Singapore VEX Nationals 2016

Tertiary Division Champions
Tournament Excellence Award
Programming Skills Champions



CodeForCorona Hackathon 2020 Finalist

Open category



RoboCup Singapore 2017

4th Placing



School Awards

Certificate of Distinction for contribution in Robotics-2016, 2017

Distinguished Service Award for Exemplary Leadership-2017