RAVYU SIVAKUMARAN

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EDUCATION

Bachelors in Science, Computer Science

University of Illinois at Urbana-Champaign   📅 May 2023   🏛 GPA: 4.0/4.0

WORK EXPERIENCE

Software Design Studio Course Assistant

UIUC CS Department   📅 Jan 2021 – May 2021

- Taught students on programming fundamentals: Object Oriented Programming (Java/C++), 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 facillitate discussion on programming practices with students.

Backend Developer

CloudZen Pte., Ltd.,   📅 Jan 2018 – Apr 2018

- 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

- 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.

PROJECTS

Air Traffic Control Currency Tracker

Republic of Singapore Air Force   📅 Apr 2019 – Apr 2020

- 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

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.