

RAVYU SIVAKUMARAN

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📍 Champaign, IL

in Ravyu

🐙 RavyuS

EDUCATION

Bachelors in Science, Computer Science — **University of Illinois at Urbana-Champaign**
4.0/4.0

📅 May 2023 GPA:

PROJECTS/COMPETITIONS

DSTA TIL 2020 — **Machine Learning + Robotics based Search and Rescue Competition**

📅 Jun 2020

- Trained a YOLOv4 based object detection model on the mnist data set to detect clothes
- Adapted model to a DJI Robomaster to autonomously identify and rescue targets based on clothes worn in a simulated disaster zone
- Finalist in University Category

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

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 (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

- 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 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