

RAVYU SIVAKUMARAN

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📍 Champaign, IL

in Ravyu

🔗 RavyuS

EDUCATION

Bachelors in Science, Computer Science

University of Illinois at Urbana-Champaign 🎓 GPA: 4.0/4.0

📅 May 2023

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 (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

- 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.