

Riju Sikdar

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1291 Gordon St, Apt 412, Guelph, ON N1L 0M5

Available for 4-month or 8-month co-op

Education

Bachelor of Engineering (Co-op), University of Guelph
Major in **Engineering Systems and Computing**

2016 – 2025

Work Experience

Student Embedded Systems Design Student

Jan 2019 – Aug 2019

Evertz Microsystems Ltd. – Burlington ON.

- Helped create real time captioning server using Python and Twisted framework
- Created new server for redundancy and media streaming purposes
- Wrote and modified shell scripts to automate creation of development environment and migrations to production environment
- Led migration to Ubuntu 18.04 from 16.04 – Recompiled libraries, rewrote python & shell scripts
- Learned Flash and used PB Twisted library for inter-server communications
- Created demo system to be tested by customer
- Worked with supervisor to create product specifications and identify technologies to be used

Java Learning Assistant

May 2018 – Aug 2018

Sheridan College – Trafalgar Campus

- Helped students learn programming concepts and troubleshoot in multiple languages (primarily Java) through drop-in sessions, appointments and class visits
- Learned to create Java GUI applications using Java FX
- Held exam review seminars with prepared exam style questions
- Posted timely announcements in class portal website to ensure students' success in upcoming projects
- Presented relevant announcements in class and reminded students of available tutoring resources
- Created posters for tutoring center and business cards for staff
- Worked flexibly in both Trafalgar and Davis campus locations

Robotics Instructor

Jul 2017 – Jul 2017 (3 weeks)

Durham District School Board – Lakewood Public School

- Familiarized elementary school children with basic robotics skills in summer learning program to develop interest in STEM fields from a young age
- Taught basic programming skills and encouraged critical thinking and design skills using robotics kits by having students build and program without the use of instruction booklets
- Encouraged group engagement to complete tasks within a time limit
- Adapted teaching schedule based on primary classroom teacher's needs day to day

Projects

Crows Nest – Motion Detection Camera

[Github.com/Rr9/CrowsNest](https://github.com/Rr9/CrowsNest)

- Using Python and OpenCV, computer vision designed by Intel to identify key frame differences in video
- Start recording 10 seconds preceding detected motion, overlay time stamp and recording sign on frames
- Change framerates from passive monitoring to active recording for lower memory consumption
- Email notification with timestamp when motion is detected
- Using object-oriented programming in Python to learn OOP syntax and methodologies specific to Python

IOT Garage opener with Andriod app and REST API

[Github.com/Rr9/openSaysMe](https://github.com/Rr9/openSaysMe)

- Used an ESP8266 development board and relays to create a WIFI connected garage door opener that can be accessed from only local IP

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- Learned about the IP stack and implemented REST API endpoints to access from webpage or phone app
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Proficiencies

- **Languages:** C, C++, Python, Async Python - Twisted & Flask, Java, VHDL, GIT
- **Web Dev:** HTML5, CSS3, JavaScript & JQuery, PHP, SQL
- **Hardware:** Arduino, ESP8266, ESP32, Interfacing sensors, Vex Cortex, FPGA, RTOS
- **Software:** Microsoft Office Suite, Adobe Photoshop & Illustrator, LINUX OS, SolidWorks, MATLAB