Aakash Pirani

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SUMMARY

- Experienced in C++, Python, STM/HAL, Arduino, HTML/CSS
- Familiar with Arduino, **STM ARM Cortex** Boards, Onion Omega, Altera Quartus FPGA, **soldering/wiring various components**

SKILLS

Embedded

- Experience reading schematics and creating working circuits
- Worked with I^2C, SPI, UART, CAN

Languages

- 3 years formal education **C++**
- 1 year formal education **Python**
- Experienced with HTML/CSS
- Proven knowledge of the STM HAL libraries, **C++ standard libaries**

Software

- Altium CircuitMaker
- STM Cube MX
- Altera Quartus Prime (**VHDL**)
- Unity
- Confluence, Git, Slack
- Adobe Suite

EDUCATION

University of Waterloo 2017-2022
1B | Electrical Engineering
- 3.9 GPA 1A

Webber Academy 2011-2017
Alberta Highschool Diploma
- Valedictorian
- Nationally ranked debater and speaker

PROJECTS

Waterloo Formula Electric
TELEMETRY - HARDWARE PROJECT LEAD   Sept 2017 - Present
- Assembled a two node CAN Bus using STM F0s, MCP 2515, 2551
- Designed a telemetry system to transfer sensor data from the car's CAN bus over radio to a remote base station
- Wrote C libraries to integrate various peripherals with the STM F0

Waterloo Nanorobotics
SAM ROBOT - HARDWARE/FIRMWARE LEAD   Oct 2017 - Present
- Updated robot design to use transistor H-bridges instead of relays, improving effective control of solenoids
- Wrote Arduino programs to test movement of a 300 micron robot using keyboard controls

Alarm Plus Plus
WEATHER CONNECTED ALARM CLOCK   Nov 2017 - Present
- Alarm Clock that used an Onion Omega2, 7-segment display and LEDs to portray time and weather
- Wrote custom C++ libraries to interface with LEDs and a display; used Wunderground API to fetch location specific weather

https://github.com/KashPirani/AlarmPlusPlus

"Smart" Irrigation Controller
WIFI CONENCTED WATERING SYSTEM   Nov 2015 - April 2016
- Autonomously controlled sprinkler and irrgation systems using an Adafruit Feather Huzzah (Wi-Fi connected MCU)
- Wrote software that combines sensor data and real time forecasts to create optimum watering schedules

EXPERIENCE

LANDSOLUTIONS LP
Accounting Intern and Receptionist   Aug 2016
- Reconciled accounts payable and recievable using Quickbooks
- Revised internal website to enable quick access to popular widgets

WEBBER ACADEMY DEBATE BOOTCAMP
Organizer and Presenter   Jan 2017 - Jul 2017
- Scheduled a four-day speech and debate camp for 82 youths
- Presented seminars on content and speaking style, assisting other presenters who felt overloaded
- Ran backroom logistics to ensure each day went smoothly