

Jerome Villapando

2B Mechatronics Engineering
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SKILLS

LANGUAGES

C • C++ • Python • Javascript • HTML/CSS

SOFTWARE TOOLS

MATLAB • Fusion 360 • Solidworks • AutoCAD • Eagle CAD • Diptrace • Arduino • Git • Visual Studio

PROTOTYPING

PCB Milling • Hand/Reflow Soldering • Laser Cutting • 3D Printing • General Machine shop skills

ACCOMPLISHMENTS

SCHOLARSHIPS/AWARDS

President's Scholarship of Distinction
Universities Canada RBC Scholarship
Edward S. Rogers Sr. Scholarship
University of Waterloo County Scholarship

EDUCATION

UNIVERSITY OF WATERLOO

BASC IN HONOURS MECHATRONICS
ENGINEERING

Class of 2021 | Waterloo, ON
Cum. GPA: 3.58/4.0

COURSEWORK

UNDERGRADUATE

Real Time Operating Systems
Sensors and Instrumentation
Microprocessors and Digital Logic
Data Structures and Algorithms

LINKS

Website:// jeromevillapando.me
Github:// [jeromeocode](https://github.com/jeromeocode)
LinkedIn:// [jeromevillapando](https://www.linkedin.com/in/jeromevillapando)

EXPERIENCE

NICOYA LIFESCIENCES | MEDICAL INSTRUMENT ENGINEERING INTERN

January 2018 – April 2018 | Kitchener, ON

- Designed a PCB that reduce the noise of the company's newest product by 25%
- Used a transform algorithm to enhance the signal of a sensor by 70% and it will be used for customer support feedback in their upcoming product
- Developed a prototype to automate the product's valve switch using an IR sensor and a stepper motor
- Saved the company \$1000 by soldering a 100+ component PCB without error
- Created a Python program to parse data from a multimeter using serial communication
- Automated a week of medical instrument experiments through a Python script

UNIVERSITY OF WATERLOO | CIRCUIT BOARD FABRICATION INTERN

April 2017 - August 2017 | Waterloo, ON

- Modified machine components in machine shop to improve manufacturing times by 60%
- Manufactured circuit boards for consumers using LPKF rapid prototyping machines
- Optimized client PCB layouts using Eagle CAD before assembly for efficient printing

PROJECTS

DISCORD.JS CHAT BOT | PERSONAL PROJECT

Spring 2017 | Cambridge, ON

- Hosted a chat bot using discord.js, a Node.js module that interacts with Discord's API
- Pulled data from Discord using event handlers to make interactive text, and math functions

MARS ROVER DESIGN TEAM | HARDWARE DEVELOPER

Winter 2017 | Waterloo, ON

- Built a Mars rover that placed 15th worldwide at the International Rover Challenge 2017
- Created prototype circuits from PCB Diptrace/Eagle CAD schematics to be implemented in the robotic arm

MUSICAL ROBOT COMPETITION | FIRST YEAR ROBOTICS

December 2016 | Waterloo, ON

- Designed a 3-wheel drive Arduino robot to process sensor data into music
- Implemented light intensity sensors using photo-resistors and LEDs for path-finding and an R2R 8 bit DAC for audio output

AUTONOMOUS WAREHOUSE SORTER PROJECT | FINAL TERM PROJECT

Fall 2016 | Waterloo, ON

- Coded a C++ line-following and Bluetooth communication algorithm for our robot
- Actuated motors, encoders, implemented sensor data, wayfinding and collision avoidance