JEROME VILLAPANDO

2A Mechatronics Engineering - jerome.villapando@uwaterloo.com - linkedin.com/in/jeromevillapando

TECHNICAL SKILLS

- **Software:**
    - C / C++, Node.js, JavaScript, HTML5/CSS, MATLAB
    - *CAD:* Solidworks, AutoCAD, Eagle Cad, Diptrace
- **Hardware:**
    - PCB Milling, Hand/Reflow Soldering, GD&T, Laser Cutter, Machine shop tools

WORK EXPERIENCE

Circuit Board Manufacturing, University of Waterloo Sedra Design Centre
Eagle Cad, PCB Milling, Reflow Soldering, Solidworks, Machine shop | April 2017 – August 2017
- Manufactured circuit boards for consumers using LPKF rapid prototyping machines
- Modified machine components in **machine shop** to improve manufacturing times by 60%
- Optimized client PCB layouts using **Eagle CAD** before assembly for efficient printing
- Ran a drop-in business to provide PCB fabrication and 3D print services

TECHNICAL PROJECTS

Discord.js chat bot, Personal Project
Node.js, JavaScript | Feb 2017 – March 2017
- 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 intuitive text, and math functions

Mars Rover Electrical Engineering, University of Waterloo Robotics Electrical Team
Diptrace, Eagle CAD | Jan 2017 – April 2017
- Built a Mars rover that placed 15th worldwide at the International Rover Challenge 2017
- Created prototype circuits from PCB **Diptrace/Eagle CAD** schematics for a robotic arm
- Assisted in finalizing the voltage regulation and CAN/I2C communication protocols
- Soldered surface mount components to test the functionality of integrated circuit chips

Musical Robot Competition, University of Waterloo Robotics First Year Competition
Arduino, C | Sept 2016 – Nov 2016
- Designed a 3-wheel drive robot using an **Arduino** to process sensor data into music
- Implemented light intensity sensors using photo-resistors and LEDs and an R2R 8 bit DAC

Autonomous Warehouse Sorter Project, 1A Mechatronics Engineering Final Project
C++, RobotC, Solidworks | Dec 2016
- Coded a **C++** line-following and Bluetooth communication algorithm for our robot
- Actuated motors, encoders, implemented sensor data, wayfinding and collision avoidance

EDUCATION

MECHATRONICS ENGINEERING | UNIVERSITY OF WATERLOO, ONTARIO
2016 -2021
- *Candidate for B.ASc. in Mechatronics Engineering Co-op (3.68 GPA)*
- Relevant courses: Microprocessors and Digital Logic, Data Structures and Algorithms