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| **Henry Wang** | github.com/h397wang  613-890-9178  henry.wang@uwaterloo.ca | | | | | | |
| Skills Summary | | | | | | | |
| **Programming Languages:** Assembler, C/C++, C#, Java, MATLAB, Python, VHDL  **IDEs:** Visual Studio, Eclipse, Keil, Unity  **Tools/Frameworks:** Android Development, Arduino, Git, MEX API, OpenCV, Perforce  **CADs:** AutoCAD, DipTrace, Multisim, Fritzing, SolidWorks | | | | | | | |
| Education | | | | | | | |
| University of Waterloo, Waterloo, ON  Bachelor of Applied Science, Computer Engineering | | Spring 2020 | | | | | |
| Dean’s Honours List | | Winter 2015, Winter 2016 | | | | | |
| Relevant Courses: Operating Systems, Embedded Microprocessor Systems, Digital Computers | | | | | | | |
| Work Experience | | | | | | | |
| Firmware Engineering, Infinera, Ottawa, ON | | | | Winter 2017 | | | |
| * Optimized (C++) source code implementations to reduce runtime (25-33%) and improve accuracy (5-13 dB in SNR) of fixed-point fast Fourier transform functions * Used an Eclipse-based embedded processor simulator to create and automate Makefile based unit tests * Created Visual Studio MEX projects and MATLAB scripts to test C++ programs in MATLAB | | | | | | | |
| Puzzle Engineering, Escape Games Canada, Toronto, ON | | | | Spring 2016 | | | |
| * Designed, programmed, built, debugged, and installed Arduino based embedded systems (e.g. keypad sequencers, electromagnetic locks, RFID readers, and illuminated pressure plates) | | | | | | | |
| Project Experience | | | | | | | |
| [RoboHacks](https://github.com/h397wang/SpaceArm) | | | Winter 2017 | | | | |
| * Used the Leap Motion Python API to control an Arduino robotic arm based on hand position and gestures | | | | | | | |
| [Hack the North](https://github.com/h397wang/htn-tinderbot) | | | Fall 2016 | | | | |
| * Programmed a Python script to automate the selection of Tinder users based on facial image analysis | | | | | | | |
| [Remote Controlled Arduino Car](https://github.com/h397wang/Arduino-RC-Car) | | | Spring 2016 | | | | |
| * Used SolidWorks to draft chassis before 3D printing and assembly * Interfaced IR receiver with the Arduino and motor shield to decode remote control signals | | | | | | | |
| [Interactive Floor Display](https://github.com/h397wang/Interact-Floor-Display) | | | | | Spring 2016 | | |
| * Manufactured, assembled and wired hardware for 160 sq. ft. of illuminated pressure plates * Setup I2C bus between Pi master and Arduino slaves to transmit color and switch states * Installed and interfaced Arduino Ethernet clients with Rasperry Pi LAMP server | | | | | | | |
| [Personal Facial Image Filter](https://github.com/h397wang/Super-Saiyan) | | | Spring 2016 | | | | |
| * Implemented basic image processing concepts with OpenCV and C++ * Program superimposes a mask image onto the region of the video frame containing the face | | | | | | | |
| [University of Toronto Hacks](https://github.com/h397wang/SpaceTTT) | | | | | | Winter 2016 | |
| * Developed a 4x4x4 game of Tic-tac-toe in Unity (C#) that uses Leap Motion’s hand motion and gesture recognition to provide a 3D interactive user interface | | | | | | |