

University of Waterloo
Co-operative Work Terms

Henry Wang
20565787
2B Computer Engineering, Honours, Co-operative Program

Work Term	Employer	Evaluation
May - Aug 2015	Brook Restoration Ottawa Project Manager Assistant	VERY GOOD
May - Aug 2016	VS Entertainment Inc Toronto Puzzle Engineer	GOOD
Jan - Apr 2017	Infinera Corporation Divisional Office Ottawa Ontario Canada Firmware	EXCELLENT

Planned Future Work Term(s)

Sep - Dec 2017
May - Aug 2018
Jan - Apr 2019
Sep - Dec 2019

Henry Wang

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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

Spring 2020

Bachelor of Applied Science, Computer Engineering

Dean's Honours List

Winter 2015, Winter 2016

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](#)

Winter 2017

- Used the Leap Motion Python API to control an Arduino robotic arm based on hand position and gestures

[Hack the North](#)

Fall 2016

- Programmed a Python script to automate the selection of Tinder users based on facial image analysis

[Chess Game Android Application](#)

Spring 2016

- Created a fully functional chess game for Android mobile (Java) with user friendly features such as tile highlights, unlimited undos, resets, automatic saving and reloading of game states

[Interactive 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 Raspberry Pi LAMP server

[Personal Facial Image Filter](#)

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](#)

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

UNIVERSITY OF WATERLOO

UNOFFICIAL GRADE REPORT

Henry Wang
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2B Computer Engineering, Honours, Co-operative Program

Spring 2017

ECE	200B	ECE Practice
TPM	1X000	Technical Presentation
ECE	224	Embedded Microprocessor Sys
ECE	254	Operating Systems
ECE	207	Signals and Systems
ECE	242	Electronic Circuits 2
ECON	102	Intro to Macroeconomics
Term Average: N/A		Decision:

Winter 2017

COOP	3	Co-operative Work Term	CR
PD	4	Teamwork	CR
Term Average: N/A		Decision:	

Fall 2016

ECE	250	Algorithms & Data Structures	90
ECE	222	Digital Computers	85
ECE	290	Eng Profession, Ethics, Law	80
ECE	205	Adv Calculus (Elec.&Comp.Eng.)	95
ECE	204A	Numerical Methods 1	90
ECE	200A	ECE Practice	CR
ECE	240	Electronic Circuits 1	90
ECON	101	Intro to Microeconomics	85
Term Average: 87.69		Decision:	Excellent standing

Spring 2016

COOP	2	Co-operative Work Term	CR
PD	21	Eng'g Wrkplace Skills II:	CR
Term Average: N/A		Decision:	

Winter 2016

ECE	100B	ECE Practice	CR
ECE	124	Digital Circuits and Systems	96
ECE	103	Discrete Mathematics	96
ECE	155	Eng. Design, Embedded Systems	94
ECE	106	Physics of Electrical Eng 2	86
PSYCH	101	Introductory Psychology	79
Term Average: 90.2		Decision:	Excellent standing

Fall 2015

ECE	150	Fundamentals of Programming	91
Term Average: N/A		Decision:	Decision not applicable

Spring 2015

COOP	1	Co-operative Work Term	CR
PD	20	Eng'g Workplce Skills I:	CR
Term Average: N/A		Decision:	

Winter 2015

CIVE	121	Digital Computation	89
CIVE	153	Earth Engineering	84
MATH	118	Calculus 2 for Engineering	95
CIVE	199	Seminar	
CIVE	127	Statics & Solid Mechanics 1	89
GENE	123	Electrical Engineering	87
MSCI	311	Organizational Design & Tech	81

Term Average: 87.5

Decision: Excellent standing

Fall 2014

MATH	115	Linear Algebra (Eng)	87
MATH	116	Calculus 1 for Engineering	92
CHE	102	Chemistry for Engineers	81
CIVE	125	Civil Engineering Concepts 1	82
PHYS	115	Mechanics	79

Term Average: 83.96

Decision: Excellent standing