Douglas Huang

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SKILLS

- Programming ability:
  - **Proficient in:** C/C++, Python
  - **Familiar with:** Java, HTML, CSS, JavaScript, Latex
- Development Tools: Git, Bash/Unix, Android Studio, Eclipse
- Software: AutoCAD, Solidworks, Altium

EDUCATION

2014 – 2019 | ***Candidate for Bachelor of Applied Science in Mechatronics Engineering,*** *University of Waterloo.*

WORK EXPERIENCE

Jan. 2015 - Present | ***Bioinformatics Software Developer,*** *Agriculture Canada,* Ottawa, ON.
- Developing pipeline with Python and Bash shell scripting to process DNA data sets for vital Canadian crop research
- Implemented parallel processing to increase efficiency by 45%

Jan. – Sep. 2014 | ***Founder and Instructor,*** *Android Academy for Young Learners,* Markham, ON.
- Developed unique curriculum to introduce computer science principles through building mobile apps and hardware applications with Arduino.
- Instructed over 20 students ages 10-18 in Android app development.
- Created and maintained website with course registration functionality.

PROJECTS

Jan. 2015 | ***CodePaper,*** *U of T Hacks,* Toronto, ON.
- Created a graphical programming language which interprets user-drawn flow diagrams for functional programming
- Utilized Python OpenCV computer vision library for image processing and implemented a binary search tree algorithm to identify nodes and edges
- Developed web application to submit and process photos of diagrams

Sep. 2014 | ***TurnIT Bike Indicator Light System,*** *Hack the North,* Waterloo, ON.
- Engineered a Bluetooth motion-activated bicycle indicator light system using Arduino microcontroller and Pebble smart-watch.
- Programmed watch accelerometer to detect arm gestures and control corresponding lights connected to Arduino via Bluetooth module.
- Created a five – segment LED arrow array embedded into a 3-D printed electronics housing designed using Solidworks.

Oct. 2014 | ***Serial Protocol Parser,*** *Waterloo Hybrid Team,* Waterloo, ON.
- Developed engine data parsing software to transform raw data from hybrid race car vehicle control unit into analyzable information.
- Utilized Arduino microcontroller and IDE to stream pseudo-data from serial for test simulation of engine.