CHARLIE HUANG

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EDUCATION

University of Toronto   **Expected Graduation 2018**
- *B.A.Sc.* in Engineering Science – Electrical and Computer Engineering
- Honor Roll 2014-Present, President's Entrance Scholarship (2013)

TECHNICAL SKILLS

Languages: Python, C/C++, Java, Perl, CShell, Tcl, Verilog, Objective C
Technologies: Linux/Unix, Perforce, Visual Studios, Arduino, Xcode, NIOs 2 Assembly

PROFESSIONAL EXPERIENCE

Software Developer Intern   **May 2017 – Aug 2017**
Google   **Waterloo, Canada**
- Designed and implemented a safe, easy to use, and serializable Money API
- Updated Display Ads Infrastructure's auction codebase to make use of new API
- Refactored code to help facilitate new auction services

Software Engineering Intern   **May 2016 – Apr 2017**
Advanced Micro Devices   **Sunnyvale, USA**
- Provided support and enhancements to the TileBuilder Infrastructure, a distributed system used for automated design flow for VLSI physical design
- Enabled caching in critical paths of the flow to improve runtime
- Constructed new parameterized design flows for technology evaluation
- Wrote Python scripts to process data and store performance metrics into MySQL databases
- Wrote and updated Tcl scripts for calculating utilization, leakage power, timing analysis
- Wrote software regression test suites

Research Intern   **May 2015 – Jul 2015**
Lund University   **Lund, Sweden**
- Designed an ASIC for matrix multiplication from behavioural description to GDSII
- Utilized CAD circuit-design tools: ModelSim, Design Vision, and Cadence Encounter
- Wrote Python scripts to optimize design by performing parameter sweeps of utilization density and aspect ratios

RELEVANT PROJECTS

Eye Contact Detection – Thesis   **Sep 2017 – Present**
- Worked with Dr. Khai Truong, Associate Professor at the University of Toronto
- Utilized image processing, and machine learning to measure eye gaze, and classify whether eye contact is established between individuals

Autonomous Mobile Robot – Team Lead   **Jan 2015 – Apr 2015**
- Designed and built an autonomous robot that performs complex maneuvering, relocates objects strategically into a connect-four board
- Programmed Arduino microcontrollers as a FSM with infrared and ultrasonic sensors inputs
- Worked with team to integrate the mechanical and electrical subsystems

Application Game Developer at Royal Ontario Museum   **May 2014 – Aug 2014**
- Developed iOS app featuring exploration of the interior of the museum