

MICHAEL CAI

1B Electrical Engineering

Home Address: 1840 John Street, Thornhill ON. L3T1Z1 Canada

michaelcai.party | ykcai@gmail.uwaterloo.ca | +1 (647)-529-7012

EDUCATION

UNIVERSITY OF WATERLOO

CANDIDATE FOR BACHELOR OF
APPLIED SCIENCE IN

ELECTRICAL ENGINEERING

Expected June 2019 | GPA: 3.00

SKILLS

TECHNICAL

- Analysis Electronic Schematics
- Physical Design of Hardware
- Configured Electronic Components
- Development Experience with C#
- Familiar with QA Methodologies
- Knowledge of Software Dev. Cycle
- CAD for Electrical Design
- VHDL • PSS/E Load Flow • C#
- AutoCAD • Visual Studio
- Java • Altera Quartus II
- Eclipse • SharePoint • Android

SOFT

Positive Attitude
Problem Solver
Team Player
Self-Confident
Excellent Time Management
Strong Work Ethics

COURSEWORK

UNDERGRADUATE

- Protein-Structure Analysis Program
- Android App - Integrated Sensors
- PSS/E Data Analysis - InfoExtract
- Project Management
- Fundamentals of Power Systems

AWARDS

- 2014 President's Scholarship of Distinction, University of Waterloo
- 2014 Canadian Computing Competition, St. Robert Catholic High School
- 2013 Outstanding Volunteer Award, Chinese Martyrs' Catholic Church

EXPERIENCE

TECHNOLOGY DEVELOPMENT - CO-OP ENGINEER | DISTRIBUTION

ASSET MANAGEMENT AND ENGINEERING, HYDRO ONE INC.

Jan - May 2015 | Toronto, ON

- Coordinated and controlled Research and Development projects in SharePoint, and reviewed the quality of research products against corporate standards
- Represented the Research and Development division during engagement with contractors and was responsible for the management of over 200 projects
- Produced a presentation on Power System Electronics - UPFC/HPFC and their impacts on the electrical grid to director of Distribution Management
- Created an automation script for PSS/E program and developed a program in C# for data collection and analysis, called InfoExtract

SALES REPRESENTATIVE | GENERAL MERCHANDISE, LOBLAW'S LTD.

Sept 2012 - July 2014 | Richmond Hill, ON

- Managed entire general merchandise department by inspecting daily refunded-transactions and overseeing closing procedures

PROFESSOR AND PRIVATE TUTOR | HELEN'S MUSIC SCHOOL (GNFC)

June 2012 - July 2014 | Toronto, ON

- Designed, and created course syllabus for RCM level music theory, including Advance Rudiments, Grade 1-5 RCM level piano and Grade 8-11 academic mathematics

PROJECT EXPERIENCE

DIGITAL CIRCUITS AND SYSTEMS - ADVANCED VHDL

May 2015 - Present | Coursework Project | University of Waterloo

- Designed a traffic light control system as a sequential circuit with clock. The system controlled two traffic lights at an intersection using a state machine
- Built VHDL circuit to choose between various calculations and logical operations. This is basically a calculator which can perform multiple operations with no memory, i.e. the circuit is completely combinational

INFOEXTRACT

Jan - May 2015 | Independent Project | Hydro One Inc.

- Proposed, developed and tested a computer application that would enable user to extract data of a specific type and do a certain analysis on the data collection
- Made using Visual Studio 2010 for PSS/E Load Flow and PSS/E Harmonic Frequency Scanner Tool

HIGH VOLTAGE TESLA COIL

Jan 2015 - Present | Independent Project

- Planned general layout of basic circuitry and conducted research on construction and testing of the functionality of the tesla coil
- Experimented with wireless electricity and future implementations of
- Phase 2 - Fall 2015

ELECTRICAL DESIGN OF HARDWARE COMPONENTS

Sept - Dec 2014 | Coursework Project | UWaterloo Hybrid Team

- Used Altium Designer to create schematics of circuit boards and collaborated with team to build the entire electrical network of the electric car
- Developed hands on experience with building circuits, soldering, and the use of many tools from wiring insulating compressors to power tools