MICHAEL CAI

1B Electrical Engineering
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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 Experenice with C#
- Fimiliar with QA Methodologies
- Knowledge of Software Dev. Cycle
- CAD for Electrical Design

C# • Java • Ecplise • Visual Studio
Github • Subversion • AutoCAD
Android • Flash CS4 • Photoshop
SharePoint • Altera Quartus II

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 – ENGINEERING CO-OP | 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
- Engaged in active discussions with contractors and was responsible for the management of over 200 projects
- Conducted research on power system harmonics using PSS/E Scanner and Worked alongside senior electrical engineers in the review of designs and reports
- Studied 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

PROFESSOR AND PRIVATE TUTOR | Helen's Music School

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 traffic light control system as a sequential circuit with clock, controlling two traffic lights at an intersection using a state machine
- Built VHDL circuit to choose between various calculations and logical operations. Circuit 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 preform 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 layout of circuitry and began construction and testing of the functionalities of the tesla coil

Electrical Design of Hardware Components

Sept - Dec 2014 | Coursework Project | UWaterloo Hydrid Team

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

FRC Scoreboard and Community ServTrack

Jan - July 2014 | Coursework | St. Robert Catholic High School

- Planned and finalized complex virtual scoreboards using Java implementing Agile software development methods
- Development a logical system for importing date to community service tracker and exporting data to individual student records as well as an overall master file
- Applied knowledge of OPP in Java to create a community service hour tracker, using NetBeans IDE