NIRAL FERNANDO

Waterloo Computer Engineering | Electronics Hobbyist

Email: niral.fernando@gmail.com
Website: www.eng.uwaterloo.ca/~mn2ferna
GitHub: www.github.com/niralfernando
Linkedin: www.linkedin.com/in/niralfernando
Phone: 647-922-9265

SUMMARY OF SKILLS

Languages

- C#, C++, Java, Python, VHDL, XML, Object-oriented programming

Web Development Languages

- HTML, CSS, JavaScript, Angular JS

Hardware

- Extensive experience in schematic and PCB creation and, debugging
- Industrial experience in designing and prototyping circuitry with I2C protocol
- Strong engineering interest with independent technical projects; www.eng.uwaterloo.ca/~mn2ferna

Software

- **Tools:** MATLAB, Altera Quartus-II, Eagle CAD, SolidWorks, Dreamweaver, Illustrator, MS-Office
- **IDE & VCS:** Microsoft Visual Studio, Eclipse, Xcode, Git, SVN

Soft Skills

- Effective project management skills acquired through Agile Scrum methodology and UML
- Outstanding leadership skills developed through volunteer directorship positions

Certifications

- Certified SolidWorks Associate, Dassault Systèmes SolidWorks Corp., License C-ZHBWWBCC3N

WORK EXPERIENCE

LCD Design Engineer **[May - Dec 2013]**
Lumotune Inc. Kitchener, ON, Canada

- Developed firmware to transmit PWM signals over Wi-Fi to microcontroller, which controlled pixel opacity
- Designed and prototyped circuitry to drive Passive Matrix Polymer Dispersed LCDs
- Increased the number of I/O pins of prototype microcontroller from 6 to 258 using I2C protocol
- Drew full circuit schematics and PCB layouts for finalized designs in Eagle CAD

Application Engineer **[Apr – Sep 2012]**
Javelin Technologies Inc. Oakville, ON, Canada

- Maintained and debugged problems in audio mixers and video recording devices
- Produced and distributed digital media to employees' mobile devices and tablets
- Directed product marketing campaigns which increased company's media channel's online traffic from 1000 views/month to 36000 views/month

Campus Lead **[Nov 2012 – May 2013]**
Canadian Undergraduate Technology Conference Foundation Toronto, ON, Canada

- Raised brand awareness by leveraging social media and by holding faculty presentations
- Presented weekly progress reports and coordinated with a student team of 15 executives from Ontario, Alberta, and British Columbia
- Mission accomplished: Successfully sold out Toronto's conference (long term goal of selling 470 tickets)

PROJECTS

Currently Ongoing Independent Technical Projects:

- **Smart Lamp** - Smart phone controlled table lamp (https://github.com/niralfernando/Smart-Lamp)
- **Laptop anti-theft sleeve -** Built a capacitive proximity sensor. Currently in the process of developing software to detect significant changes in serial readings to notify laptop owner's smartphone
- **Android pedometer application -** Event-driven programming (Java) to read phone's accelerometer to count the user's steps
- **Quick Recipe Finder (Facebook Hackathon 2014) -** Used Yummly Recipe API to retrieve recipe information and incorporated Angular JS. Developed an intuitive front-end UI for the webapp. Back-end integration has yet to be completed

Past Independent Technical Projects and Academic Projects:

8x8 LED Dot Matrix Display Programming (Independent)

- Programmed ATMEL microcontrollers to utilize I2C bus and access eight 16-bit I/O expanders (MCP23017) with hardwired slave addresses
- Developed code in Arduino IDE that allowed user to display any word moving across the display with appropriate refresh rates

Engineering Consulting Team Leader - Student Consulting Project (Academic)
Avalon Rare Earth Metals Inc.

- Lead a team of 4 students to create an innovative application that could maximize Avalon's profits
- Coordinated all group tasks and managed overall progress of the project
- Created a 12 page report with detailed description of suggested solution through researching alternative applications
- Analyzed safety and liability of proposed application, Superconducting Magnetic Energy Storage System

Traffic Light Programming (Independent)

- Wrote turin program to operate a traffic light system in an intersection
- Tested code by transmitting signals through computer's serial port to breadboard
- Debugged problems regarding wiring and verified signal transmission to appropriate slots

Lake Tahoe Digital Elevation Model Data I/O - C# (Academic)

- Develop C# classes to extract and correct data, and calculate estimates for volume of the lake

EDUCATION

Candidate for Bachelor of Applied Science, Computer Engineering, Honours **[Sep 2013- present]**
University of Waterloo Waterloo, ON, Canada
(Transferred from Nanotechnology Engineering after 1 year)

Relevant Courses: Statistical Analysis, Digital Circuits and Systems (VHDL Design, DE2 FPGA board), Embedded Systems (involves android application development projects)

AWARDS

- **University of Waterloo President's Scholarship of Distinction** **[Nov 2011]**
  Awarded for +95% average
- **Governor General's Bronze Medal for Academic Excellence** **[Jun 2011]**
  Highest academic average in the graduating class (96%)
- **University of Toronto Book Award** **[Jun 2011]**
  Exceptional leadership & commitment to the school and community at large

ACTIVITIES

- **Design Team Member,** UW Robotics - NASA Sample Receiving Division (Fall 2013)
- **Powertrain Design Team Member,** Formula MotorSports Design Team (Fall 2013)
- **Campus Ambassador,** MyCareerCity Inc. (Spring 2013)
- **Event Organizing Committee Member,** Tug-of-War Championship, Italy (Spring 2013)
- **Waterloo Engineering Competition Logistics Director,** Waterloo Engineering Society (Spring 2012)
- **Student Ambassador,** Engineering Exploration Day (Winter 2013)
- **Academic Representative,** Waterloo Engineering Society (Winter 2013)
- **Lab Instructor/Presenter,** University of Toronto Gifted Conference (Winter 2011)