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Summary of Skills & Accomplishments

- Experience in several programming/markup languages (C#, Java, C, C++, JavaScript, Assembly, Python and Lua)
- Basic knowledge of RESTful services and web technologies such as Flask and AngularJS.
- Experience with Microcontrollers (AVR/Arduino, Freescale HCS12, K60), FPGA's (Spartan-6) and the interfacing of sensors and external devices.
- Owner and Creator of Compsci Studio; a YouTube channel dedicated to programming/computer tutorials.
- Competed in the Ontario Engineering Competition at UOIT, ranking 2nd overall for a cross platform Google Map based smartphone application.
- Experience working with large scale software, revision control and Agile software design methodologies.

Work Experience

- **Camis Incorporated** *Jan-Aug 2015*
 - ❖ Worked as a Software Developer implementing software features and fixing/maintaining large code-bases.
 - ❖ Programmed in C#/.NET Framework, XAML and Microsoft T-SQL utilizing Visual Studio and Microsoft SQL Server.
 - ❖ Implemented both front and server side logic for a multimedia feature enabling users of the Camis software to stream training/informational videos.
 - ❖ Improved an existing software feature used for simulating transactions within Camis Software.
 - ❖ Worked in a team of 7 implementing a content management system for managing content on hundreds of Park websites.
- **Sheridan College** *May-Aug 2014*
 - ❖ Taught Intermediate Java Programming.
 - ❖ Created and held lecture/lab sessions on a weekly basis, tutored students and assisted Professors.
 - ❖ Managed, updated and created student profile records and other various documents.
- **Pepsi Co.** *June-Aug 2013*
 - ❖ Worked in the Quality Assurance department as the Document Control Co-ordinator at the Cambridge Frito-Lay Plant.
 - ❖ Managed, Updated and distributed important company documents.
 - ❖ Prepared and revised company documents for FSSC-22000 (Food Health and Safety Audit)
 - ❖ Trained employees in various technologies and work related tasks.

Personal Projects

- **Nintendo 64 Game Cartridge Emulator**
 - ❖ Creating a custom cartridge by emulating the hardware within an Nintendo 64 Game cartridge by utilizing a Xilinx Spartan 6 FPGA.
 - ❖ Implementing a custom solution which emulates all features of a traditional cartridge including ROM storage, game save data and cartridge verification.

- ❖ Interfacing an SD Cartridge as mass game storage and an external 64MB SDRAM as in-game ROM storage/cache.
- **Nintendo 64 Controller Protocol Reverse Engineering**
 - ❖ Reverse Engineering/Decoding the serial data transmitted to/from the console and controller.
 - ❖ Implementation is done on an 8-bit Atmega328P microcontroller (Arduino UNO) utilizing AVR Assembly.
 - ❖ The microcontroller interprets signals received and transmitted and will be later used to create an adapter for PC.
- **Unmanned Aircraft System**
 - ❖ As part of the 8th Unmanned Systems Canada competition the task is to create a drone to address problems faced within the oil/gas, mining and agricultural industries.
 - ❖ Utilizing the power of Artificial Intelligence and image processing, the group has been tasked with identifying several objects such as QR codes and infrared beacons.

School Projects

- **Live-Video Streaming via Wi-Fi Direct**
 - ❖ Implemented a Flask Server on a UDOO Neo Development board serving live video via Wi-Fi Direct.
 - ❖ The system will be utilized for the 2016 Unmanned Drone Competition.
- **CMOS Wearable Body Temperature Sensor**
 - ❖ Designed, implemented and simulated a wearable temperature sensor using CMOS technologies.
 - ❖ Utilized Cadence software in order to implement, debug and simulate real-world effects.
 - ❖ The temperature sensor was required to operate with a resolution of 1°C and an accuracy of 0.1°C.
- **Central Processing Unit**
 - ❖ Designed and implemented a 16-bit instruction set including the machine format for the assembly language.
 - ❖ Designed and implemented the internal organization of the microprocessor utilizing a Digilent Nexys 3 Spartan-6 FPGA, VHDL and simulation tools.
 - ❖ After the microprocessor was designed, a test application which calculated the nth Fibonacci value was created for validation.
- **3D-Printed Toy Vehicle**
 - ❖ Designed and prototyped a toy vehicle which must be assembled and disassembled easily without the use of glue or other adhesives.
 - ❖ The toy must be powered without the use of batteries to operate.
 - ❖ Utilized SolidWorks in order to create the structure of the design which was then 3D Printed.
 - ❖ The design utilized a peg and hole assembly configuration to simply fix the two halves of the frame together.

Activities and Interests

- Game Console Hardware/Technology and Programming
- Golfing, Hockey, Volleyball, Tennis and Squash

Education

- ❖ University of Guelph – Computer Engineering, Co-op 2012 – Present
- ❖ Galt Collegiate Institute (High School) – Earned Computer Science Award 2008 – 2012