Winston (Weixuan) Sun

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EDUCATION

BASc in Electrical and Computer Engineering, University of Toronto 2017 - 2022

Minors in Artificial Intelligence, Robotics and Mechatronics, Engineering Business CGPA: 3.82

TECHNICAL SKILLS

Programming Languages: C; C++ (object-oriented); C#; .Net; Python; MATLAB; System Verilog; Tcl; Shell Script; ARM Assembly; SQL database; WPF; HTML; CSS; PHP; XML & DTD

Computer Tools: Git (Version Control); Valgrind; ModelSim; Simulink; Multisim (SPICE); Eyeshot; gdb server

Electrical Instruments: FPGA; Function generator; Oscilloscope; Spectrum Analyzer; Multimeter

WORK EXPERIENCE

Embedded System Engineer, (C, Verilog, Tcl, MATLAB, gdb server), Analog Devices Jul 2020 – Aug 2021

- Worked on 5G 8T8R ORAN O-RU development that spans from optical interface to transceiver
- Developed hardware, bare metal codes and HAL embedded software to connect and link up components of the radio chain, involving and real-time data management and manipulation (JESD204C, 10/25G Ethernet) and communication protocols (SPI, I2C) to configure clock and transceiver chips
- Experiences in schematics review, place & route, timing closure, Linux OS boot up, RF, and system level debug.
- RTL coding in System Verilog and running/debugging simulations (testbench) on hardware components

ECE Capstone Facilitator, (Excel), UofT May 2020 – Aug 2020

Full Stack Software Developer, (C#, .Net, WPF framework), Rocscience May 2019 – Aug 2019

- Integrated Sensemetrics API (TCP connection) and IDS Radar (HTTPS connection) into Slide3 (geotechnical software), fetching and filtering user-selected data through web servers and plotting onto the 3D model
- Developed new UI using WPF for importing and selecting data feature and designed the user process flow

Electrical Engineer Intern, (Electrical test instruments), Bekaert Deslee Jul 2018 – Aug 2018

- Troubleshot over 200 feeder devices and decreased the discard rate by 30%, saving the company over $10,000

ENGINEERING PROJECTS

Designer, TinyML Magic Wand Project, (Arduino, TensorFlow) Jan 2021 – Feb 2021

- Implemented keyword spotting and gesture recognition and created an end-to-end pipeline from data collection/pre-processing to model training, converting model to TF Lite/Micro for deployment on Arduino

Designer, X-ray Diagnosis on Bacterial and Viral Pneumonia, (Pytorch) Jun 2020 – Aug 2020

- Using convolutional neural network and transfer learning to create multiclass classification

Team Lead, Map Application Software Design, (C++) Jan 2019 – Apr 2019

- Created higher-level API and develop graphics interface for the Geographic Information System
- Found the fastest path to deliver courier packages using weighted A* algorithm and heuristics searches

Designer, Flappy Bird Game Hardware Design, (C, ARM Assembly, Verilog) Apr 2019 – Apr 2019

- Developed bare metal code on FPGA and ARM core using VGA display and PS2 controller

LEADERSHIP

Co-President, Sustainable Engineers Association Apr 2020 – May 2021

- Oversaw the full-scale operation of the club and supported the execution of the club's events and initiatives

VP Conference, Sustainable Engineers Association Apr 2019 – Apr 2020

- Developed project plans and led the execution of the Sustainability Conference with over 300 attendees