Jukai Dai

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Technical Skills

Programming Related: Python (NumPy, Pandas, SciKit, TensorFlow), Java, C/C++, JavaScript, CSS, HTML, SQL, React, MATLAB, VHDL, GIT
Engineering Software: MS Word, MS Excel, Android Studio, Vivado, Quartus II.
Operating Systems: Windows, Linux, Debian, Ubuntu

Education

Toronto Metropolitan University **Sept 2019 – May 2023**
Bachelor of Engineering - Computer Engineering
Courses: Courses: Computer Architecture, Embedded Systems, System on Chip Design, Machine Learning, Computer Networking and Security. Digital Signal Processing, Data Structures and Algorithms

Projects

ECG Analysis with SoC

- Created a Hardware Software codesign on a PYNQ-Z2 FPGA that analyses heart rate, heart beats, and arrythmia using a software algorithm with hardware acceleration.
- Software algorithm coded using Python on a Jupyter Notebook.
- Hardware acceleration custom IP built with Vitis HLS using C++ and Vivado.

Personal Portfolio Website

- Personal portfolio website features an introduction homepage with links to my socials and resume.
- Built with React, JavaScript, CSS, HTML.
- Deployed using a CMS, Netlify which is incorporated in code.

Android Pomodoro application

- Built a Pomodoro timer application coded in Java using Android Studio.
- Utilizes XML for application UI layout.

Pong with FPGA

- Created Pong running of a FGPA using the boards switches as controls and VGA interface to display the graphics.
- Coded using VHDL on Xilinx ISE.