Hanyu Xi

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Languages: Python, C++, MATLAB, Bash, VHDL, HTML5/CSS3

Frameworks and Tools: Pandas, Flask, React.js, Git, Agile, Linux

Electrical: Arduino, Raspberry Pi, Sensors, Actuators, PID design, EAGLE, LabVIEW FPGA

Mechanical: SOLIDWORKS, FEA, Cura, CNC Operation, 3D printing

Education

B.E.Sc. in Mechatronic Systems Engineering - Western University — May 2019

- Dean's Honor Award (2015 - 2017)
- SOLIDWORKS Certification-CSWA
- Hackathons: Top 6 for Hack Western 2 (2015),
  IBM Blue Mix First Prize for Montreal Angel Hackathon (2015)

Experience

Software Developer — Trudell Medical, London ON — Jan. 2018 – Sept. 2018

Tools/Languages: Python, Pandas, Flask, HTML5/CSS3, D3.js, React.js, MongoDB, Git, unittest mock

- Developed a web application to enable doctors to visualize patient data using Python Flask/Pandas, D3.js and React.js
- Setup and configured a database to store and manage medical data using MongoDB and Python
- Wrote scripts to testing web application algorithms and functions using unittest mock
- Developed algorithms for patient prescription adherence using aggregated clinical trial data from doctors
- Collaborated with electrical and mechanical engineers to ensure consistency with hardware product

Mechatronics Engineering Intern — Trudell Medical, London ON — May 2017 – Dec. 2018

Tools/Languages: Python, Linux, Raspberry Pi, SOLIDWORKS, MJM/SLA, LabVIEW, EAGLE

- Assisted in the design and manufacturing of fixtures or jigs in SOLIDWORKS for product development
- Designed a market display system in Python and Linux for European Respiratory Society Conference
- Provided an SLA 3D printer build set-up and post-processing service to help engineers prototype
- Fixed and maintained MJM, SLA,SLA desktop 3D printers for daily usage by engineering team

Projects

Heatmap Calendar Project — Python, Dash and Plotly module (MIT Licensed)

- Developed a Python application that allows Python programmers and data analysts to develop heatmap calendar projects than uncovers previously hidden insights from their data
- Developed in Python using Dash and Plotly module (MIT Licensed)

Autonomous Collection Robot — C++, SOLIDWORKS, Ultrasonic Sensors, PID Design, Arduino

- Used servo motors, PID controller and Arduino-mega board to control a manipulator and wheels
- Designed robot's arm and chassis in SOLIDWORDS

Research Project: Study the Properties of Acoustic Metamaterials — LabVIEW, FPGA, VHDL

- Developed LabVIEW FPGA modules to generate soundwaves and acquire their attenuated frequencies
- Designed HostVI to display real time attenuated sound waveform in a graph