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JACK NENG

www.github.com/Jack-Neng

www.sfu.ca/~wneng

Employment History

Linux Automation QA, Co-op — **T2 Systems, Inc.** — October 2017 - August 2018

- Designed and executed both manual and automation test cases for verification and regression testing, worked closely with developers to track, report, and fix bugs
- Implemented, debugged, and modified automation tests for software applications on Linux OS platform using Python Unittest framework
- Participated in sprint planning and retrospective, and worked in Agile environment with Agile development tools, such as Bitbucket, Jira
- Created a mock web server using Python Flask framework to handle HTTP requests and to test applications with specific responses

Education

Bachelor of Applied Science, Simon Fraser University, Burnaby

January 2015 – August 2019

Mechatronic Systems Engineering

Technical Projects

Personal Website: www.sfu.ca/~wneng (for additional information and projects)

E-Commerce Site

- Developed a web server and created crud methods for an e-commerce site to persist data to online database
- Implemented user authentication for customers with the use of Spring Security and JWT token provider
- Designed a single-page website for customers to do shopping online with pagination and sorting on client side
- Created a database to store all the products, customer, and cart data with MySQL and Amazon RDS service
- Utilized: Java Spring Boot, Spring Security, JWT, JavaScript, React, MySQL, MySQL Workbench, AWS RDS

Menu Hosting Service

- Developed a web server for restaurants to post their happy hour/special menus online using Python Django
- Created a user authentication for restaurant to register and login with the use of Python knox framework
- Designed a user friendly website for people to check out the restaurants' menus and contact info using JavaScript React, Redux and Axios frameworks
- Utilized: Python Django, Django REST, Knox, JavaScript React, Redux, Axios, SQLite

iPark IOT Parking System

- Designed the electrical structures of a scalable sensor-indicator circuit with limited pins of GPIOs on NodeMCU
- Developed an embedded Arduino program to transfer ultrasonic sensor data and signal LEDs on Visual Studio with PlatformIO
- Integrated the embedded program with the Firebase API to transfer real-time data between the NodeMCU microcontroller and the web app created with JavaScript React
- Utilized: NodeMCU, Arduino, sensors & actuators, JavaScript React

Real-Time and Embedded Control Systems

- Designed the mechanical and electrical structures of a self-balancing robot
- Utilized the I2C communication protocol to interfaced and transferred the gyroscope and accelerometer data to the Tiva C microcontroller
- Converted the sensor raw data to angle and to adjust the PWM output signals to control the speed of motors through a H-bridge motor driver
- Automated the motors of the self-balancing robot using control loop feedback system and made use of the PID algorithm to increase the response time and eliminate the steady state error
- Utilized: C, I2C protocol, Tiva C microcontroller, H-bridge, PID controller

Skills

Software: (proficient): Python, JavaScript, Git, Embedded system (familiar): Java, C/C++, SQL, Algorithms & Data Structures