Xinyu Wang . Jarvis Consulting

Driven and analytical professional with a bachelor's level education in electrical engineering from Carleton University. Apply engineering expertise to projects on devices and product development, programming and software design, and electronic manufacturing. Collaborate on teams to manage multifaceted projects and synthesize complex concepts into engineering solutions. Demonstrate proven ability to apply engineering skills to a wide range of electrical and software engineering projects.

Technical Acumen

Proficient: Java, Bash, SQL, Agile/Scrum, C,

Competent: MATLAB, Python, Embedded System, C++, Junit, Lambda/Stream API, Mockito, Spring Framework

Familiar: Google Cloud Platform, Git, Tensorflow

Hardware Design Tool: Cadence, ADS, HFSS, Simulink

Development Projects in Jarvis

Project source code: https://github.com/jarviscanada/jarvis_data_eng_shawn

- **Cluster Monitor**:
  - Developed a cluster monitoring bash agent that records hardware specifications and monitors resource usage (per minute) of all nodes in a cluster. Provisioned PostgreSQL database in nodes to store information of all nodes with the help of the bash agent installed in all of them. Utilized cron job to schedule the collection of resource usage information every minute. Coded SQL queries to generate reports for some business questions.
- **Core Java Apps**:
  - Designed a Java8 based application called JavaGrep that searches all files in a directory recursively for a user-provided regular expression. Implemented method that contain those expressions and sent into a new file.
  - Developed a JDBC-based application that allows users to perform basic CRUD operations on a PostgreSQL database using DAO pattern.
  - Designed a Java8 based application called TwitterCLI which helps users create, read, and delete posts on Twitter using Twitter Rest API. Implemented four versions of the TwitterCLI application - basic Java version, Spring Beans version, Spring Component Scan version, and Springboot version. Wrote Unit Tests and Integration Tests for the applications using JUnit4 and Mockito.
- **SpringBoot App**:
  - Implemented Java8 and Springboot based REST API of a trading platform that uses IEX Cloud as a data source and PostgreSQL to persist data. Used a three-tier microservice architecture to implement it. Made use of Spring DAO to handle data access in PostgreSQL. Wrote unit and integration test using JUnit4 and Mockito. Dockerized the application. *in-progress*
- **Cloud & DevOps**: Not started
- **Hadoop**: Not started
- **Spark/Scala**: Not started

Professional Experiences

Software Developer, Jarvis, Toronto (2020-Present):
Working on big data technologies based projects which include Java, Hadoop, Spark, Cloud, and DevOps. Responsible for performing the duties of the team lead in Agile-based team projects to aid scrum master in conducting scrum ceremonies.

Coop, Zhejiang Lida Modern Textile Company, China (2019-2019):
Designed and created a quality assurance system for a factory to enable accurate detection of defects, using real-time object detection through Open CV and deep learning. Utilized machine learning framework TensorFlow to create computer vision and neural networks.

Other Projects

- **Raspberry Pi auto water refill system with GCP utilization and ESP8266 chip:**
  Created an auto water refill system through a Wi-Fi network for cats. Created an object detection system by using the Google Cloud Vision. Applied Arduino and C++ knowledge and utilizing the MQTT data transfer protocol

to send a signal to control the 5v water valve for water refilling. Applied raspberry pi and python knowledge and TCP/IP protocol to send data to google cloud vision to detect empty food and water and send an email back to host account with picture for the status check. Achieved a home automation system by using knowledge of IoT system. Customers can send back an email with signals, the pet will never worry about the water and food supply.

- **Raspberry Pi RFID Attendance System Construction:**
  Utilized Raspberry Pi and the RC522 RFID chip to build an attendance system with an LCD screen and database. Completed programming using Python in Linux Environment with an Adafruit LCD display. Using SPI protocol to ensure RC522 chip was able to read RFID cards and correct wiring. Prepared and set up the MySQL database to complete each person's information. Achieved a working attendance system with an RFID card with the host database check for better security.
- **Real-Time Object Detection Using Computer Vision & Neural Network:**
  Designed and created a quality assurance system for a factory to enable accurate detection of defects, using real-time object detection through Open CV and deep learning. Utilized machine learning framework TensorFlow to create computer vision and neural networks. Achieved workable frame rate detection by using the Convolutional Neural Networks (fast CNN) method. Demonstrated understanding of applications for various libraries in Python programming such as NumPy, OpenCV, and Matplotlib. Compared designed model to real-time images captured by factory camera, using Linux, Python, and virtual software to compile information.