Ling Zhi Mo

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Technical / Computer Skills

Languages: C, C++, Python, Java, MC68000 Assembler, HTML/CSS/JavaScript, PHP

Environments: Windows, Linux, Amazon EC2(cloud), GitHub, CLI, QnX Momentic, Atmel Studio, DynamoDB

Additional: Sockets Programming (TCP/IP), Web Development,Python Scikit-Learn, Pandas, Matplotlib packages, Python Spark, TensorFlow, OpenCL, C++ MPI (distributed system), MCU programming (C or Arduino),React,

Education

Master of Engineering, Computers, Data Analytics **2021-Now**

University of Toronto, Toronto, ON

Cumulative Grade Point Average: 3.54/4

Relevant Courses:

- Data Analytics and Machine Learning (A-)
- Reinforcement Learning (B+)
- Advanced data structure and Algorithms (A-)
- A.I. in Finance
- Machine Learning

Bachelor of Engineering, Computers **2016-2021**

Concordia University, Montreal, QC Cumulative

Grade Point Average: 3.74/4.3

Relevant Courses:

- Big Data Analytics (A+)
- Advanced Telecommunication Networks (A+)
- Artificial Intelligence (B+)
- Programming on Cloud (A)
- Embedded System/IoT (A+)

Career-Related Experience

Software Developer August 2018 – December 2018

Bombardier Aerospace, Montreal, QC, Canada

Aircraft Health Management System automatic data interpreter project

- Automatically obtain raw data from Aircraft system that are sent under **UDP**, interpret data into readable files.
- Used **Batch script** and **Wireshark** to intercept UDP data; used **VBA** to decode data, and output graphs.
- Used Python **SFTP** module to login to SFTP file server to extract history data.
- Used Python **Flask** to build an interactive website displaying graphs.

Electrical System Integrator August 2018 – December 2018

Bombardier Aerospace, Montreal, QC, Canada

- **Integrate**, **test** and **troubleshoot** cabin systems such as the Cabin Management and Entertainment System.
- Support production and troubleshoot cabin system on aircraft.
- Provide visibility daily to supervisor on the progress of the testing and the issue encounter.
- Ensure coordination with other systems suppliers for an adequate integration.

Academic and Work Projects

Rental Website (Programming on Cloud) 2020-2020

- This project presents a solution for navigating and searching rental ads faster. As per course instruction, the project was set up on **Amazon EC2** instance.
- Study the **Html structure** and its **JavaScript** of the rental websites to write **WebCrawler.**
- Gather **10000 data points** from rental websites in under **10 minutes** with Python **concurrent request**. Stored data in **DynamoDB.**
- Implemented **RESTful** interface with **Python Flask**. Used **Authentication plugin**.
- Displayed data on the **Google map instance (JavaScript)**, each data point has a geographical location and its rental price on top of the point. Clicking the data point would redirect user to the actual ad.

WallStreetBets Big Data Analysis (Big Data Analytics) 2020-2020

- Used Pushshift API to get posts from subreddit WallStreetBets, collected over 30000 useful data.
- Filtered textual data with **Spark NLP** and StopWordsRemover.
- Visualized data with **PCA**, **TruncatedSVD** and **T-SNE** libraries from Scikit-learn, and with Python and **Matplotlib**.
- Built a Naïve-bayes **classifier** to classify Reddit posts discussing high growth stock.

Air Traffic-Monitoring-and-Control-System (RTOS) 2020-2020

- This project involves all or part of the design, implementation, testing and analysis of a simplified **air traffic control** system (ATC). The program is implemented with **QnX Momentic** IDE, tested on PC with **RTOS**.
- It is programmed with **C++**, implemented with **Multithreading class**, and experimenting the Linux pthread's scheduler and priority.
- The program has **6 threads** to implement the feature of Display Manager, Collision detection, Log file, Radar system.

Tree-planting Robot communication subsystem (MCU and transceiver) 2020-2021

- Used **atmega328** MCU to control the picoboard 4468CPCE20C915 which has SI4468 **transceiver** chip.
- It is programmed in C and with **Atmel studio**. Implemented the **USART I/O** interface so atmega328 can transmit data via USB by using a FTDI cable.
- Followed the instructions, successively implemented the **"wake up" sequence** to use the 4468 picoboard.
- Data can be transmitted and received by each transceiver. The data are also transmitted from MCU to PC via USART and FTDI. Interpret the received data with **Python Serial** module that listen to the attached **USB port**.

Awards

Dean's List, Concordia University 2020-2021

Interests

Big Data, Data Analytics, Reinforcement Learning, Communication Networks, Multicore Programming, A.I. Software Development