Vincent (Zhiming) Lin

LinkedIn | 416-565-5862 | zhiming.lin@outlook.com | GitHub

Skills

- Python | Pandas | Numpy | Machine Learning | Matplotlib | Tableau | Seaborn | OpenAI Gym | PostgreSQL | pgAdmin
- C++ | Qt | Flask | Cheroot | APIs | OOP | Jira | Appium | Shell | Selenium | Web Crawling | Git | Hadoop & HDFS & Zookeeper
- Data Analysis | Data Preprocess | Distributed Systems | English, Mandarin, Cantonese – *All professional proficiency or above*

Experience

Software Engineer **Lifetech Cardio** *Shenzhen, CN* **01/2023 – 07/2023**

- Developed the Intra-Aortic Balloon Pump (IABP) upper computer software functionalities, API ports using **Flask** and **Cheroot** libraries, and the corresponding fully automated testing processes utilizing the APIs.
- Preprocessed data modeling using Python, Openpyxl, including **bit manipulation, missing data, and data reduction.**
- Visualization of data and evaluation of IABP machine reliability and functionality using **Tableau, Python and Excel.**
- Implemented **classification** and **regression** techniques to verify arterial pressure responses according to IABP operating stages, reducing **15%** of manual oversight.
- Optimized the communication module (IABP coded in Python) between the upper and lower computer, reducing the time per communication by an average of **20%.**
- Reimplemented IABP upper computer source code and API ports in C++ to further optimized the communication module and resolved the waveform stuttering problem.

Quality Assurance Engineer **Baneks** *Toronto, CA* **09/2022 - 12/2022**

- Managed defects and issues on **Jira**, collaborate with development team to validate fixes and follow up on issue resolution.
- Familiar with iOS automated testing using **Appium**, iOS simulators and live test configuration environments, covering core transaction functionality and user interaction scenarios to improve testing efficiency and accuracy, successfully raised **10+** defects and resolved them.
- Collaborated with developers and other stakeholders to define currency exchange policies and system requirements, revised manuals and terms and conditions.

Software Developer **Guanshu Technology** *Beijing, CN* **01/2020 - 04/2020**

- Developed **Shell** automated detection of security configuration scripts for Big Data frameworks (Apache Hadoop, HDFS and Zookeeper) and automated execution of framework commands for validation.
- Developed automated identification of sensitive data types using Regex and encryption of sensitive portions, this feature was adopted in **10+** user platforms.
- Documented and reported faults and bugs to support development and implementation of iterative updates, improving overall stability of product.
- Worked with clients to understand business needs and translate those needs into actionable reports in data visualization, saving **15** hours of manual work per week.

Quality Assurance Engineer **Dapasoft** *Toronto, CA* **05/2019 - 08/2019**

- Participated in software development for two projects, analyzing requirements, coordinating planning and testing for the projects.
- Constructed test plans and cases in **Test Manager**, executed tests in established timelines and produced corresponding bug reports to reduce project development time.
- Created software logic flow diagrams using **Visio** for client meetings to increase transparency and customer understanding of the software aspects.

Data Analyst **ETR Law Firm** *Guangzhou, CN* **09/2018 - 12/2018**

- Developed and created a data collection process using BeautifulSoup and Selenium that increased collection efficiency by **90%** and reduced collection time by **1 hour per case.**
- Programmed the above tool with user-friendly instructions and user interfaces, to automate company background search process.
- Facilitated learning and development sessions to demonstrate new tools and new ways of collecting data to **30+** employees.

Front End Developer **Duoyi Network** *Guangzhou, CN* **01/2017 - 04/2017**

- Developed responsive user interface using Node.js, Express, MySQL, HTML and JavaScript, ensuring compatibility across various browsers and devices.
- Improved 3 interactive web pages load time by **30%.**
- Experience in Agile development environments, working with cross-functional teams to deliver projects within tight deadlines.

Education

Honours Bachelor of Applied Sciences (Co-op) **University of Waterloo** *Waterloo, CA* **Graduated 06/2023**

- Major in Computer Engineering

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Projects

Mammographic Mass Data Analysis Project — **Personal Learning** — **12/2023 - 12/2023**

- Analyzed mammogram data to predict mass malignancy using Python and machine learning algorithms, achieving over **80%** predictive accuracy.
- Cleaned and preprocessed data, including normalization and outlier management, to prepare for model training and testing.
- Implemented and evaluated multiple models (**Decision Trees, Random Forest, SVM, KNN, Naïve Bayes, and Logistic Regression**) using **K-Fold cross-validation**.
- Built and tuned **neural networks** with **TensorFlow** and **Keras**, focusing on hyperparameter optimization to enhance model performance.
- Performed extensive data visualization for feature analysis and model interpretation using **Matplotlib** and **Seaborn**.

London Bikes Usage — **Personal Learning** — **12/2023 - 12/2023**

- Developed an interactive Tableau dashboard with dynamic moving average visualizations.
- Enabled period-specific analysis of bike usage patterns influenced by weather and hours.
- Crafted a heatmap to illustrate the correlation between weather conditions and bike usage, highlighting variations in rider behavior based on temperature and wind speed during selected periods.

Comprehensive User Browser History Analysis — **Personal** — **11/2023 - 12/2022**

- Developed a comprehensive browser history analysis and utilizes Tableau to visualize data.
- Implemented a sophisticated scoring algorithm to evaluate user intent, distinguishing between deliberate actions such as direct URL entry (indicating strong intent) and passive actions like link clicks.
- Devised a normalization process for intent scoring, ensuring fair comparison across domains with varied visit frequencies and maintaining scores within a 0-100 scale.
- Utilized Python's Pandas library for data manipulation and analysis, handling large datasets with 160k data points with efficiency and accuracy.
- The project demonstrated the ability to translate raw data into actionable insights, with the potential to improve personal time management and enhance targeted marketing strategies.

Tab Manager — **Personal** — **10/2023 - Present**

- Creator of a Google Chrome extension for efficient tab management, offering real-time updates and memory optimization by systematically organizing and temporarily closing browser tabs.

Voice Recognition AR Device — **University of Waterloo** — **04/2021 - 04/2022**

- Engineered an affordable AR-based visual aid for the hearing-impaired that features real-time speech-to-text conversion using custom Python software with PyAudio and Google Cloud Speech API.
- Selected among 30 Capstone Project teams to receive the Apple Award for Best System Design.

RL in OpenAI Gym — **University of Waterloo** — **01/2022 - 04/2022**

- Developed learning agents for **Reinforcement Learning** algorithms Q-Learning, Double Q and SARSA, applied on OpenAI Gym Environment Frozen-Lake.
- Improved algorithm success rate by **12.72%** from 78.6% to 88.6% by identifying problem natures and stabilizing initial conditions accordingly.
- Monitored agent performances by visualizing data into graphs using Matplotlib.

Internet Traffic Database — **University of Waterloo** — **01/2021 - 04/2021**

- Built large MySQL database from multiple datasets and used Python CLI to perform CRUD operations.

Dependency Checker — **University of Waterloo** — **01/2021 - 04/2021**

- Created Async dependency checker in Rust as part of Programming for Performance course.

Load Balancing Web Server — **University of Waterloo** — **05/2020 - 08/2020**

- Web server that distributed workloads using Thrift RPC calls. Used Zookeeper to ensure it supported primary-backup replication.

Mentorship

- **iBASE:** Mentor responsible for mentoring and giving academic and life advice to international students in University of Waterloo. **(01/2021 - 04/2022)**

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Certificates

- **Statistics for Data Science and Business Analysis (Udemy):** Acquired skills in statistical analysis, data visualization, regression, hypothesis testing, and critical thinking for data-driven decision making.
- **The Complete SQL Bootcamp (Udemy):** Acquired fundamental to advanced SQL skills for database design, data querying, manipulation, analysis, and constructing business intelligence reports with PostgreSQL and pgAdmin.
- **The Complete Python Bootcamp (Udemy):** Further enhanced Python skills with advanced topics such as data science and network automation.
- **Advanced Data Science and Machine Learning with Python (Udemy):** Mastered a suite of advanced data science techniques including neural network construction with TensorFlow and Keras, large-scale machine learning with Apache Spark's MLLib, and deep learning applications for image and sentiment classification. Acquired proficiency in predictive analytics using various regression models, data visualization with MatPlotLib and Seaborn, and reinforcement learning with practical implementations like a Pac-Man bot. Gained expertise in clustering, classification, and recommendation systems, along with an understanding of modern AI, including transformers and generative models like GANs. Enhanced skills in A/B testing, feature engineering, hyperparameter tuning, and various machine learning algorithms for robust data-driven problem-solving.