# Zixiong Lin

2708-7 Grenville St., Toronto, ON M4Y 0E9
**647-936-0729 jueji.lin@mail.utoronto.ca**


## Education

Honours Bachelor of Science, University of Toronto, 4th year 2019-Present
Computer Science Specialist, Focus in Artificial Intelligence, U of T Dean's List (2022), CGPA: 3.87
Relevant Courses: Introductory Machine Learning, Introduction to Databases, Introductory Probability, Data Structures and Analysis, Algorithm Design and Analysis, Formal Language and Automata, Introduction to Artificial Intelligence, Operating Systems, MLOps in Digital Health
Honours Bachelor of Science, University of Toronto Scarborough 2017-2019
Computer Science Specialist (Co-op), U of T Dean's List (2018, 2019), CGPA: 3.70 (except a course still applying for late withdraw due to illness)
Relevant Courses: Calculus, Linear Algebra, Discrete Mathematics, Introduction to Computer Science, Software Design, Software Tools and Systems Programming

## Technical Skills

- **Programming:** Python, SQL, R, Java, JavaScript, PHP, HTML, C, Shell, UNIX commands
- **Common Python libraries used in machine learning:** NumPy, pandas, scikit-learn, Requests, PyTorch, Matplotlib, TensorFlow, tslearn, Scipy, Pyod
- **Version Control:** SVN, git

## Interpersonal Skills

- Strong communication skills developed by interacting with professors, supervisors, and team members.
- Proficient conflict resolving skills both inside and outside a team.
- Great self-learning skills includes online resources searching and literature reviewing.
- Motivated to learn new knowledge in a fast speed.
- Bilingualism English and Mandarin, both fluent in spoken and written.

## Relevant Experience

**Research Trainee,** AID4MH Lab, CAMH, Toronto, ON, Canada May 2022-Present

- Researched on digital health application framework CardinalKit (https://cardinalkit.org/), assess its ability of collecting passive data, active data, and save the collected data to Firebase (https://firebase.google.com/).
- Implemented the sensor sub-module in QPrism (https://github.com/aid4mh/Qprism), a quality assurance module for any sensor data. Introduced 9 metrics that can assess the data quality from 3 categories: correctness, completeness, and consistency.
- Simulated data for tests, generated testing demos from the simulated data that can verify the validity of each implemented metrics in QPrism. Created demo notebooks as the examples of the package usage.
- Wrote well-documented, correct, and reusable code that can be modified at low cost in the future. Created API for the package using Read the Docs (https://readthedocs.org/). Published the developed python package to PyPI (https://pypi.org/).

**Research Studentship,** KITE, UHN, Toronto, ON, Canada Feb 2022-Present

- Formatted and cleaned a dataset consists of 900 time series excel files into pandas dataframes and numpy arrays that can be used for further research.

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- Reviewed the literature to find reasonable machine learning models that can be applied to this particular dataset, researched on the data processing procedure to decrease the number of noise in the signal (low-pass filter combined with down sampling).
- Applied Convolutional Neural Network on the formatted Posturography Centre of Pressure (COP) data to make the diagnoses that whether the patient with given data has neurological diseases affecting balance.
- Validate, select, and improve the machine learning models based on the outcome of previous models, tune the hyper-parameters, try to achieve an 80% F1-score to make it practical.

**Software Developer,** Jilin Province Picual Foods Co., Ltd., Changchun, Jilin, China 2019-2020

- Programmed customized add-ons for the enterprise resource planning system that the company was using, made the ERP system suits the actual requirements of the company.
- Developed ethical web crawlers to download and clean more than 1,000 sales data daily from the company's clients' website, reduced the daily workload of employees.
- Implemented a Python program that clean and insert the sales data to the ERP system through its API, saved other employees more than 20 hours monthly.

**Developer,** Freelance Project 2020

- Independently developed an ethical web crawler using Python which can automatically download all the luxury hotel prices in a specific area (https://github.com/ZixiongLin1/CtripSpider).
- Demonstrated the downloaded data (saved in csv file) to employer, communicated for further improvement of the application to make it fits the employer's needs more properly.
- Upgraded the application after communication, make it capable of download advanced data, like distance to landmarks, exact location in longitude and latitude.

**Research Assistant,** DEEDS Project, University of Toronto Scarborough 2018 Summer

- Debugged the online, searchable database application of 11,000 English property-transfer documents (https://deeds.library.utoronto.ca), made the application usable and successfully installed online.
- Communicated with the professor weekly to report the fixed bugs, newly tested flaws, and ambiguous codes, listed the work that has been done clearly then adjusted the prospective work next week based on the response from professor.
- Presented the demo of debugged application to the professor at the end of the work term, showed the application can be installed online with proper functionalities.