Fanglu (Louie) Yang

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Education

University of Toronto Sep 2023 – 2027
HBSc – Co-op Specialist in Statistics – Statistical Machine Learning and Data Science Stream
Major in Computer Science, Minor in Economics
Awards: E-Fund Entrance Scholarship of Excellence - 10,000 CAD, 2024 Dean's list

Projects

TTC Delay Analytics and Prediction - Datathon: 1st Winner (Best Overall) Mar 2025
UofT SDSS (Students in Data Science and Statistics) Datathon

- Evaluated **10 datasets(150k+ entries)** of Subway, Streetcar and Bus delay data using Python (Pandas, Numpy) and achieved **over 99% accuracy** on lateness prediction with **Correlation Heatmap, Logistic Regression, Classification, and XGBoost**.
- Collaborated **analytical analysis** with Data Scientists and UI/UX Designer to integrate **PowerBI** and **Figma** for interactive dashboard design with **50+ dynamic filtering**, gauge charts, data tables, bar and line graphs.
- Won **Best Overall Project** out of **100 students** in consideration of Visualization, Modeling, and Business Insights.

Car Evaluation Prediction ML Model Using XGBoost Classifier Feb 2025
Analyzed a dataset with **1000+** entries from the UCI Machine Learning Repository

- Achieved **98%** data completeness by handling missing values and applying label encoding via **Pandas and NumPy**.
- Trained an **XGBoost classifier** with **98.92% accuracy** using hyperparameter tuning via **GridSearchCV**.
- Visualized feature importance using **Matplotlib** via bar charts highlighting top predictors for car acceptability.

Statistical Analysis on Research Project Investments by the MCU Mar 2024 – Apr 2024
Analyzed a 20-year (2004–2024) dataset from the Ministry of Colleges and Universities (STAA57 Group Project)

- Implemented **RStudio** for data cleaning, wrangling, statistical analysis (bootstrap, clustering, cross-validation, logistic regression, random forest), and data visualization (ggplot) on a dataset with **5000+** entries.
- Achieved 81.7% accuracy applying **A/B testing**, recommending Govt of Ontario to diversify research investment.

Planetze – A Carbon-Tracking Sustainability App (UI/UX) Dec 2024 – Jan 2025
Designed an Android app that tracks, reduces, and offsets carbon footprint while offering real-time data and personalized insights

- Implemented **SQL** for local storage and **Firebase** for **real-time database** operations such as registrations and authentication.
- Utilized **Java** for backend logistics, logistics, including data calculations and UI control, and performed **Mockito and JUnit tests**, increasing login reliability by **60%**.
- Developed the front-end in **Android Studio** using **XML** for an interactive **user experience**.

Experience

Research Assistant Apr 2021 – Nov 2021
Shanghai Institute of Technical Physics, Chinese Academy of Sciences

- Designed a **flexible sensor** that recognizes real-time gestures via angle and curve detection using **feature extraction**, increasing detection accuracy by **55%**.
- Improved piano players gesture stability by **40%** using **10+** 3D-modeled & printed prototypes with Autodesk & Gems and employed **Arduino** for an ultrasonic sensor and buzzer to provide real-time detection.
- Won **3rd Prize** out of **15000+ students** in **both** Shanghai Youth Science and Technology Innovation Competition **&** Shanghai Future Science Star with the Piano Gesture Corrector project.

VP of Technology Aug 2024 – Present
BACSA (Biotechnology and Computer Science Association at University of Toronto)

- **Led** a team of **5** directors with weekly meetings and organized tech conferences and **python coding competitions**.
- Hosted and presented computer science workshops on **Python, Git**, etc.
- Managed club website development and updates using **HTML, CSS, and JavaScript**.

Skills

Languages: Python (Pandas, NumPy, Matplotlib, Tensorflow), C, Java, JavaScript, HTML/CSS, R, SQL
Tools: Git, VS Code, Office Suite, React, RStudio, PowerBI, Tableau, Microsoft Azure, Jupyter Notebook, OpenRefine, PostgreSQL, 3D-Modeling, Arduino, Data Analysis (Regression, Clustering, Cross-Validation, Hypothesis Testing, Bootstrap, K-Fold, Decision Tree, Random Forest, XGBoost, Sci-kit Learn, Keras).