

David Zhao

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EDUCATION

Wilfrid Laurier University

Bachelor of Science in Data Science

Waterloo, ON

Sept 2024 - Present

EXPERIENCE

Data Analytics Instructional Assistant

Sept 2025 – Dec 2025

Wilfrid Laurier University

Waterloo, ON

- **Improved clarity of student projects** as measured by a 20% increase in assignment accuracy by teaching data cleaning techniques in R and guiding visualization with ggplot2 and Matplotlib.
- **Enhanced project performance** by training predictive models (linear regression, decision trees).
- Strengthened analytical outcomes by **teaching students to apply statistical methods (hypothesis testing, regression, ANOVA)**, resulting in more accurate interpretation of data trends.

Software Developer & Data Analytics

July 2025 – Present

Teachtrack AI

Toronto, ON, Canada

- **Streamlined ETL workflows** as measured by a 25% reduction in manual data handling, by automating pipelines in Python, SQL, Flask, and HTML for multiple datasets.
- **Improved data accuracy and accessibility** by designing and managing relational databases.
- **Increased personalized teaching support** as measured by user adoption rates, by integrating predictive analytics and statistical models into the AI platform.

Math Tutor

Sept 2024 – Present

Varsity Tutor

Remote

- **Improved test performance by up to 20%** through personalized study plans based on performance data.
- **Clarified complex math and statistics concepts** with simple, accessible explanations.
- **Increased concept retention** by translating abstract theories into practical, real-world examples.

PROJECTS

Fitmotion - Fitness Exercise Predict | Python, pandas, NumPy, Dask

Remote

- **Visualized smartwatch sensor data** from **gyroscope** and **accelerometer** to identify exercise patterns.
- **Improved model performance** by applying feature engineering, tuning hyperparameters, and testing multiple algorithms to optimize predictions from motion data.
- **Achieved 88.9% prediction accuracy** in classifying user exercises by training and validating a machine learning model on motion datasets, enabling reliable real-time activity recognition for wearable devices.

ShopSmart - Full Stack E-commerce Web app | Python, HTML, React, Typescript, API

Remote

- **Developed a responsive e-commerce web app** with product listings, shopping cart, and secure checkout.
- **Built a scalable backend API** to handle user authentication, order processing, and database management.
- **Optimized server performance, reducing response time by 25%** as measured by API benchmarks, by refining backend logic, optimizing queries, and implementing caching strategies.

Eventfinder | Python, Flask, React, PostgreSQL, Docker

Remote

- **Integrated external APIs for real-time event listings** with search and category filters.
- Developed a location-based event discovery platform that allowed users to find nearby events in real time, **integrating geolocation data** and multiple external APIs to deliver accurate and responsive search results.
- **Improved user engagement** through responsive interface design, enabling seamless cross-device access.

GPA Predictor | R, ggplot2, tidymodels

Remote

- Improved dataset reliability by reducing outliers through **data cleaning and statistical tests**.
- Discovered study and stress impacts by visualizing correlations with **boxplots and trend graphs**.
- Increased model accuracy by lowering RMSE and raising R^2 using **linear regression and random forest**.

TECHNICAL SKILLS AND CERTIFICATIONS

Certificates: Harvard CS50

Languages: Java, Python, C/C++, SQL (Postgres), JavaScript/TypeScript, HTML/CSS, R, Ruby, Go, Rust

Frameworks: React, Node.js, Vue, Flask, JUnit, WordPress, Material-UI, FastAPI

Libraries: Chart.js, NumPy, Matplotlib, ggplot2, scikit-learn, TailwindCSS, Axios