

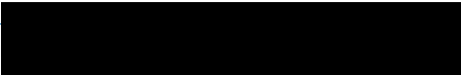
Jose G. Chavez, Ph.D.

Woodland Hills, California



“Positivity always wins.”

Passionate Mathematician and Educator with a strong foundation in mathematics and software development. Responsible, engaging, committed to growth of self and those around me.



Github: <https://github.com/jgcblue>

Skills & Expertise

Software:

Languages: Python, Javascript, HTML, CSS, BASH, LaTeX
Frameworks: Flask, React, D3
Databases: SQLite, PostgreSQL, MongoDB
Machine Learning and Data Analysis: numpy, pandas, scikit-learn, TensorFlow, Keras, PyTorch, statsmodels, SciPy, seaborn, matplotlib, plotly,seaborn, bokeh, ggplot, NLTK, spaCy, Gensim, LightGBM,Dash, FastAPI
Others: Markdown, Git, NeoVim, VSCODE

Quantitative Strengths:

Algebra 1 and 2, Finite Mathematics, PreCalculus, Calculus 1-3, Linear Algebra, Statistics, Mathematical Logic and Combinatorial Set Theory, Real Analysis, Complex Analysis, Topology

Education, Awards & Publications

Ph.D., University of North Texas, Aug-2020
Subject: Mathematics
GPA: 3.9
Dissertation: Families of Non-Club Isomorphic Aronszajn Trees

B.S., University of California Los Angeles, Aug-2013
Subject: Mathematics
GPA: 3.1

Awards:
UC LEADS SCHOLAR, 2012
Gained admittance to prestigious UC LEADS program while at UCLA. This program enabled networking with researchers, provided a stipend for performing research, and facilitated presenting at conferences.

Publications:
Jose Chavez. John Krueger. "Some Results on Non-Club Isomorphic Aronszajn Trees." Notre Dame J. Formal Logic 63 (1) 109 - 120, February 2022. Link

Experience

Remote Tutor, 2020-Present
Learner, PrepNow, StudyPoint, Tutor Doctor
Provided tutoring services in mathematics (grades K-12), undergraduate mathematics courses, and Python, HTML, CSS, and JavaScript. Also tutored SAT and ACT preparation.

Mathematics Lab Tutor, 2013-2020
University of North Texas
Solidified concepts from various undergraduate math courses. Worked with diverse students to develop mathematical and personal skills.

Teaching Fellow, 2013-2020
University of North Texas
Taught courses in Business Calculus and Statistics. Developed personalized study plans during office hours.

Math Tutor, 2022
Mathnasium, Jeffrey Road
Lead tutor. I lead groups of up to 6 kids at a time in their predetermined lesson plans and handled any and all more advanced subjects.

Projects

Personal Website Powered by Flask and React
Developed a personal website with many features including: Bootstrap implementation/Responsive Web Design with Login system with PostgreSQL database and Pdf file rendering and storage of client documents.

Restful API
Developed an API using Flask which realizes RESTful principles, provides data pipelines for insertion of quizzes generated via Jinja’s templating engine, stores quizzes and assessments in a PostgreSQL database, contains a secure login system for an administrator to query the database, and includes a pipeline to future Machine Learning tools to analyze the databases documents.

Adolescent Insomnia Study
Conducted data analysis and predictive modeling on an adolescent insomnia dataset from Kaggle. Utilized Python, pandas, and scikit-learn for data cleaning, preprocessing, exploratory data analysis, and machine learning. Built machine learning models to predict respondent’s sex based on survey responses. Overcame challenges related to handling a large and complex dataset. Demonstrated the potential of machine learning in health research.

Mental Health Data Analysis
Data Scientist
Analyzed **mental health data** from various **countries**, focusing on **Schizophrenia, Alcoholism**, and **Depression**.Employed **OLS Regression** for **statistical analysis**, revealing insights into the **prevalence** of disorders over the years. Utilized Python’s **pickling** feature for efficient **data storage** and retrieval. Simplified and manipulated **dataframes** for enhanced **data processing** and **visualization**.

Flask Web Application for Sentiment Analysis:
Created a Flask-based web interface for user text input and sentiment prediction.
Incorporated a pre-trained machine learning model for real-time sentiment analysis.
Utilized Flask’s `render_template` and Jinja templating for dynamic web content.
Implemented backend logic for tokenization, stopword removal, and stemming.
Employed a dictionary of Linear Regression models, each tailored for specific dataset traits.
Ensured seamless interaction with machine learning models via an intuitive web interface.

Stocks Analysis Tech Companies:
Developed a Stock Data Analysis project focusing on machine learning techniques to explore stock market datasets. The objective was to discern connections between tech corporations’ stock trends and assess the viability of using historical data from analogous companies to forecast future stock prices. Utilized ARIMA Models to interpret time series based on past values and employed the Augmented Dickey-Fuller Test to ascertain time series stationarity. Further analysis involved Autocorrelation to uncover underlying patterns and Visualization tools to plot autocorrelation functions. The project prominently featured data extraction using the `yfinance` package, with a deep dive into Apple’s stock performance over the years, emphasizing variances in opening and closing prices and drawing comparisons with companies like Microsoft.