

# Justin Ly

Burlingame CA - 415.309.2282 - [justinly818@gmail.com](mailto:justinly818@gmail.com) - [justinly.net](http://justinly.net) - [LinkedIn](#) - [GitHub](#)

## Education

---

**University of California, Merced** *Chancellor's List*

August 2021-May 2025

*Bachelor of Science, Computer Science & Engineering Major*

**Relevant Courses:** Data Structures, Algorithm Design & Analysis, Calculus, Discrete Mathematics, Full Stack Web Development

## Work Experience

---

**Full Stack Web Developer, University of California, Merced** (*Merced, CA*)

January 2024-Present

- Designed and deployed an end-to-end course recommendation engine using Python and SQLite, improving the registration efficiency for over 9,000 students by automating complex prerequisites validation and personalized course matching.
- Engineered an automated data pipeline using Selenium and BeautifulSoup to extract and parse university course catalogs, incorporating robust exception handling for dynamic content loading, optimizing data transformation and pattern recognition with regex parsing, and integrating the data into an SQLite database to enhance accuracy by 97.83%
- Developed and managed a relational database (SQLite) with structured data across multiple tables (Courses, Prerequisites, Schedule, Users, User Courses), implemented SQL queries for data handling, and integrated bcrypt for secure authentication

## Projects

---

**Brain Tumor Classification Model** ([Link](#)) | *Python, PyTorch, Google Colab*

- Developed and optimized a machine learning model using PyTorch with a custom TinyVGG architecture, classifying MRI images with 94% accuracy over 20 epochs, demonstrating expertise in AI model development and computer vision
- Preprocessed 1,500+ MRI images using data augmentation techniques, improving model generalization and reducing overfitting by 25% through dropout and batch normalization
- Monitored model performance metrics using precision (92%), F1-score (93%), and accuracy, demonstrating strong analytical and statistical skills in AI model evaluation

**2023 Spotify Streams Data Analysis - Full Data Analyst Workflow** ([Link](#)) | *MySQL, Python, Pandas, PowerBI, NumPy*

- Queried and analyzed a music dataset consisting of 953 songs from a MySQL database using Python (Pandas, NumPy) in Jupyter Notebook, uncovering trends such as the most common BPM (120) and key (C major), demonstrating pattern recognition expertise
- Identified actionable insights, including top 10 artists by total streams and average streams by artist count (e.g., solo artists averaged 394 million streams vs collaborations at 173 million), demonstrating problem-solving, strategic-thinking and data analysis skills
- Visualized findings in PowerBI, showcasing ability to translate complex data into clear, impactful visualizations for stakeholders

**Coffee Sales Dashboard** ([Link](#)) | *Excel*

- Conducted data analysis on coffee sales trends using advanced Excel functions (XLOOKUP, IF, INDEX-MATCH), applying business analysis and strategic thinking to optimize decision-making
- Designed an interactive sales dashboard with pivot tables, timelines, and slicers, incorporating key business metrics such as top-performing products, customer segmentation, and revenue trends, enhancing data visualization and presentation skills
- Optimized data workflows by cleaning and transforming raw data using Power Query, streamlining data processing

**Patient Waitlist Analytics Dashboard** ([Link](#)) | *Power BI*

- Transformed unstructured healthcare data using Power Query Editor, performing data wrangling and cleansing through table appending, value standardization, and custom column creation to enhance data integrity
- Implemented advanced DAX calculations to extract critical KPIs, such as trends in monthly and yearly patient waitlists, improving business intelligence and data-driven decision-making

## Technical Skills

---

**Programming Languages:** Python, C++, JavaScript, Java, TypeScript, SQL (SQLite, MySQL)

**Web Authoring, Frameworks, & Libraries:** HTML, CSS, Flask, Selenium, BeautifulSoup, Next.js, React, PyTorch, Pandas, NumPy

**Technologies:** Power BI, Excel, Firebase