Justin Ly

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Technical Skills

Programming Languages: SQL (SQLite, MySQL, PostgreSQL), Python, C++, JavaScript
Web Authoring, Frameworks, & Libraries: Pandas, HTML, CSS, Flask, Selenium, BeautifulSoup, PyTorch, NumPy
Technologies: Power BI, MS Office Suite, Firebase

Work Experience

Berkeley Risk & Security Lab   **Berkeley, CA**
AI Red Team Intern   June 2025-Present
- Constructed a hypersonic missile flight simulation model using Flask, NumPy and Matplotlib, allowing researchers to easily visualize missile threat areas with 8 different parameters
- Created a repository of 50+ AI red teaming prompt datasets and 30+ evaluation protocols, addressing the fragmentation of red teaming efforts and enabling users to cross-reference attacks with evaluations
- Conducted analysis of collected prompt datasets, identifying a coverage gap of image and code red teaming

The Morning Star Company   **Merced, CA**
Database Developer Intern   January 2025-May 2025
- Engineered a PostgreSQL database for an automated seedling counting system, reducing labor times from ~10 minutes per 450 seedling tray to under 1 minute
- Collaborated with ML engineers to integrate DINOv2 and SVM machine learning outputs/inputs with PostgreSQL database and MinIO
- Developed 15+ database functions allowing for historical trend analysis, tray anomaly detection, etc. increasing plant health monitoring accuracy by ~70%

University of California Merced   **Merced, CA**
Data Engineer   January 2024-May 2025
- Tackled inefficient course registration affecting 9000+ students by developing a course recommendation system using SQLite and Python frameworks to reduce academic advisor workload
- Achieved 400+ active users within 2 semesters of deployment while ensuring data integrity through bcrypt and protection against SQL injections
- Addressed manual data processing concerns through an ETL pipeline with BeautifulSoup, Selenium and data cleaning on the backend, lowering database update time to under 5 minutes

Projects

Insurance Claims Communication Data Analytics Dashboard (Link) | *Power BI, Python, Pandas*   March 2025-May 2025
- Transformed 3+ years of unstructured communication data into an analyzable format through star method data modeling and Pandas data cleaning functions, communicating complex ideas in a simple manner to a global audience
- Created interactive dynamic data visualizations with PowerBI using DAX measures and ensuring relationships between tables
- Implemented keyword sentiment analysis through manual pattern recognition which resulted in identifying that 65% of claimants were neutral in communications

Coffee Sales Dashboard (Link) | *Excel*   December 2024-January 2025
- Refined sales data into business insights through Excel modeling (IF, INDEX-MATCH, XLOOKUP, PIVOT TABLE), enabling proper inventory management and business decisions
- Communicated insights through data visualization using slicers, DAX measures, etc. allowing for a non-technical audience to understand the analysis on the dataset

Education

University of California Merced *Chancellor's List*   August 2021-May 2025
Bachelor of Science, Computer Science & Engineering Major