Juan Lucas Umali

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Education

University of California, Berkeley — Berkeley, CA
BS Computer Science *GPA: 3.7* — August 2022 - May 2025

Experience

Astics — Berkeley, CA
Software Developer — January 2023 - May 2023

- Developed a UI using React, Node, Typescript, and Postgres for 2 hotels with robotic process automation (RPA) and web-scraping. Improved check-in efficiency by up to 50%. Deployed on AWS.
- Designed and built the UI with team using unit testing frameworks and code analysis tools.
- UI estimated to have been used by thousands of visitors. Received positive feedback from hotel staff and clients on ease of use and functionality.

San Francisco Conservatory of Music — San Francisco, CA
Software Developer — September 2022 - December 2022

- Collaborated with San Francisco Conservatory Of Music (SFCM) to create a dashboard for user statistics aggregation.
- Designed a dashboard with data visualization techniques using React, Node.js, HTML, CSS, and Spectrix API to display yearly statistics on key metrics for user engagement.
- Increased the number of community events attended after dashboard implementation.

City University of Hong Kong — Hong Kong SAR
Research Assistant — June 2022 - August 2022

- Identified shared genes between AIDS and heart disease using Python, Unix, and PASCAL pathway scoring algorithm to discover potential therapeutic targets for multiple diseases.
- Conducted enrichment analysis on identified shared genes using genetic analysis tools FUMA and FunCoup. Utilized machine learning models to identify important biological pathways and potential therapeutic targets.
- Co-authored a research publication that advanced understanding of AIDS and heart disease etiologies and identified potential therapeutic targets for multiple diseases.

Skills

Programming:: Java, Python, JavaScript, PostgreSQL, HTML, CSS, React, Node.js, TypeScript

Projects

Python Implementation of KNN and Decision Tree Models *Python*
https://github.com/juanlucasumali/KNN-from-scratch
Implemented KNN and decision tree machine learning models from scratch using Python. Successfully tested and validated them on an iris species classification dataset. Optimized the models for accuracy and performance through hyperparameter tuning and feature selection.

Neuroevolution Simulation of Self-Driving Car AIs in Unity 3D *C#, Unity 3D, ML-Agents Toolkit*
Simulated neuroevolution in Unity 3D using C# and Unity ML-Agents toolkit. Applied a genetic algorithm to 'evolve' population of artificial neural networks assigned to simulated cars.

Chord Progression Generator *JavaScript, HTML, CSS*
https://github.com/juanlucasumali/chord-progression-generator-3000
Developed a chord progression generator that allows users to generate and customize chord progressions for music composition. Created and deployed the website using HTML, CSS, and JavaScript.