Christopher Alpuerto

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Education

California State University, Fullerton — Fullerton, CA

Bachelor of Science in Computer Science, Minor in Business Data Analytics — *Expected Graduation: May 2026*

Relavent Coursework

Advanced Data Structures & Algorithms • Algorithm Engineering • Software Engineering • Operating Systems • Artificial Intelligence • Python • Advanced C++ • Linear Algebra

Experience

Facility Attendant — May 2023 – Present

City of Glendale — *Glendale, CA*

- Streamlined customer registration and membership management by efficiently utilizing RecTrac software, ensuring accurate data input and secure processing of transactions (cash, card, and checks).
- Provided technical and operational support for patron data management and event scheduling, enhancing the user experience through organized digital record-keeping.

Projects

Automated Trading System For ETFs | github.com/chrisalpuerto/Stonks-Project — Aug 2024 – Dec 2024

- Developed an automated trading system for FNGU and FNGD, designing core trading logic and backtesting engine capable of simulating trades with a $100K virtual balance
- Integrated trading strategies using **Python**, including Simple Moving Average (SMA), Bollinger Bands (BB), and MACD to generate dynamic buy/sell signals, using **Yahoo Finance API** to base on real-time market conditions.
- Developed and deployed a full-stack web application using **Flask** (backend) and **JavaScript / HTML** (frontend) on **Heroku**, enabling users to visualize historical ETF price data, select custom date ranges, and backtest trading strategies. Parsed local **JSON** files to load price history and auomate daily data updates.

MNIST Digit Recognizer | https://github.com/chrisalpuerto/MNIST-Digit-Recognizer — March 2025 – Present

- Built a digit recognition model using **Google Colab / Jupyter Notebook** and **Python** using the MNIST dataset, applying convolutional neural networks (CNNs) with **PyTorch** to achieve high classification accuracy
- Applied **NumPy** for efficient data manipulation and **Matplotlib** for visualizing training metrics and performance. Enhanced model performance through data preprocessing, tuning, and evaluation on test data.

FinTrack | github.com/chrisalpuerto/FinTrack — Jan 2025 – Present

- Developed a full-stack financial tracking system using that provides users with AI-driven financial insights with **OpenAI API** using **Next.js (React)** for the frontend and **FastAPI (Python)** for the backend.
- Designed and integrated a **MySQL** database with FastAPI using **SQLAlchemy**, handling financial insights and secure data management.
- Implemented **RESTful** API endpoints for **CRUD** operations, enabling real-time data retrieval and updates, optimizing performance and scalability.

HandAutoMation | github.com/chrisalpuerto/HandAutoMation — March 2025 – Present

- Developed a real-time hand gesture recognition system using **Python**, **OpenCV**, and **MediaPipe**, enabling gesture-based control of sound and audio parameters in Ableton Live.
- Integrated **TensorFlow** models for gesture classification, enabling dynamic and responsive mappings between physical movement and sound manipulation.
- Implemented a bidirectional Open Source Control **(OSC)** communication layer to transmit gesture data to Ableton via OSC-to-MIDI bridge, providing low-latency interaction with DAWs and external music hardware.

Technical Skills

Languages: Python, JavaScript, Java, C++, SQL (Postgres, MongoDB, MySQL, SQLAlchemy), HTML/CSS
Frameworks: React, Node.js, Next.js, Flask, FastAPI
Developer Tools: Git, GitHub Docker, VS Code, Visual Studio, Jupyter Notebook, Google Colab, Jira
Libraries: Pandas, NumPy, Matplotlib, Plotly, Scikit-Learn, TensorFlow/PyTorch, C++ STL