

# Juana Wong

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## EDUCATION

**The City College of New York, CUNY**  
B.S. Computer Science, Mathematics Minor  
• GPA: 3.3 / 4.0

**New York, NY**  
*Expected December 2025*

## PROFESSIONAL EXPERIENCE

**CUNY Tech Prep** **New York, NY**  
Data Science Fellow *Jul 2025 – present*

- Applied end-to-end techniques in data preparation, exploratory data analysis (EDA), feature and prompt engineering, machine learning, statistical modeling, and data visualization on interactive dashboards using **Python** and **Streamlit**.

**The Lohman Laboratory, The City College of New York** **New York, NY**  
Web Designer / Full Stack Web Developer *Nov 2024 – Oct 2025*

- Technologies: **TypeScript, JavaScript, React, Next.js, Tailwind CSS, PostgreSQL, Prisma ORM, NextAuth, Vercel.**
- Designed and developed an interactive web application for academic professionals to host, filter, create, insert, and manage (CRUD operations) comprehensive taxonomic and geographic data on butterfly mimicry for over 19,000 species, supporting professional classification and research workflows.

## PROJECTS

🔗 **TummyTracker** | *Fall 2025 (In Progress)*

- Built a **Python-Streamlit** app with **Firebase** auth and **Firestore**, enabling users to track food purchases and ingredient consumption via an interactive dashboard with multi-profile management and long-term analytics for health monitoring.
- Implemented **Gemini LLM** for dietary risk prediction and pattern analysis, combined with the **OCR Space API** for automated extraction of purchase data from sessions, enhancing long-term consumption insights and health risk detection.

🔗 **Specialty Candy Shop: Data-Driven Plan to Prevent Inventory Shortages** | Report 🔗 | Presentation 🔗 | Summer 2025

- Integrated **SQL Server** data tables spanning logistics, sales, targets, and product information, using **Python** libraries such as **Pyodbc, Pandas, NumPy, Matplotlib** and **Seaborn**, finding optimization strategies and critical operational issues.
- Designed a range-based inventory strategy using **Holt-Winters exponential smoothing (statsmodels)** to forecast demand with fixed seasonality, guiding long-term planning on inventory and capacity decisions to a 5-year operational lead time.

🔗 **Random Forest Analysis of Health & Poverty Dynamics, U.S. (2015-2025)** | Report 🔗 | Presentation 🔗 | Spring 2025

- Synthesized and cleaned 35,000+ multi-source US health, poverty and population records (Google PDFM, County Health Rankings) using **Python, Pandas, NumPy & DuckDB**, with complex joins, data mappings and missing data remediation.
- Trained multi-target **Random Forest** models (**Scikit-learn**), using imputation and feature importance to identify smoking rates as the top predictor of poor mental & physical health days; visualized results with **Matplotlib & Seaborn**.

🔗 **Butterfly Species Classification Using Transfer Learning with ResNet50** | Report 🔗 | Presentation 🔗 | Spring 2025

- Achieved a 69.3% training and 72.4% validation accuracy by training a custom **convolutional neural network** (SimpleButterflyCNN) model using **PyTorch** and **Torchvision** to classify 9,000+ butterfly images across 75 species.
- Applied transfer learning with the **ResNet50**, significantly improving classification results to a 96.7% training and 91.8% validation accuracy (Precision: 0.92, Recall: 0.91, F1-score: 0.91, Support: 1300), amplifying generalization accuracy.

## TECHNICAL SKILLS

**Languages**: Python, SQL, HTML/CSS, JavaScript, TypeScript/Tailwind CSS, Kotlin

**Data Analysis & Visualization**: Pandas, NumPy, Matplotlib, Seaborn, Plotly, Altair, Streamlit

**Machine Learning & Statistical Tools**: Scikit-learn, TensorFlow, PyTorch, Statsmodels

**Databases & Data Management**: Firebase/Firestore, PostgreSQL, Supabase

**Collaboration & Development Tools**: Git/Github, Visual Studio Code, Jupyter Notebooks, Android Studio, Google Workspace

**Certifications**: CodePath | Certificate in Android Development (Summer 2025) 🔗