

CARLOTTA GHERARDI

cgherardi@g.ucla.edu | (424) 535-8137 | linkedin.com/in/carlotta-gherardi

EDUCATION

University of California, Los Angeles (UCLA)

Los Angeles, CA

Statistics and Data Science Major, Bioinformatics (Engineering) Minor B.S.

Expected Jun 2025

- **Academics:** Cumulative GPA: **3.98/4.00**, Dean's Honors List, ASA Datafest Finalist, International Baccalaureate Diploma: 45/45
- **Coursework:** Statistics and Probability, C++ Programming, Computational Statistics in R, Data Mining, Monte Carlo Methods, Algorithms and Complexity, Experimental Design & Analysis, Regression, Statistical Models in Finance, Discrete Structures

University College London (UCL)

London, UK

Health Data Science and Data Analytics in Healthcare

Jun – Aug 2022

- Employed ML algorithms (**Decision Tree**, **K-Nearest Neighbor**, **Support Vector Machine**, **Artificial Neural Network**) to perform classification on two diabetes and breast cancer datasets, with 0.84 AUROC score of the KNN and ANN classifiers

WORK EXPERIENCE

Tesla

Palo Alto, CA

Analytics Engineer Intern (Thermal and Chassis)

Jun – Sep 2024

- Developed an algorithm to detect anomalous events in vehicle fleet thermal systems up to 1.5 months earlier than manual sensor checks, enabling proactive measures to prevent bugs, increase system reliability and reduce potential costs associated with failures
- Built and automated a data pipeline using **Apache Airflow** to run the anomaly detection algorithm daily and notify stakeholders with weekly reports; set up a **Tableau** dashboard for real-time monitoring of flagged anomalies, utilized across 2+ teams
- Leveraged **Spark SQL**, **Python**, and **Trino** to extract actionable insights from fleet data: ad-hoc analyses included optimizing HVAC consumption – with potential savings comparable to powerplant-scale energy use – and enhancing THS sensor accuracy

Candidly

Remote

Data Science Intern

Jun – Sep 2023

- Engineered a Python-based generative AI chatbot to answer client inquiries, cutting time spent on requests for proposals by ~90%
- Tested four large language models: OpenAI's **GPT-3.5/4**, Meta's **Llama2**, Hugging Face's **BERT** and **RoBERTa**, performed question classification, prompt engineering, **RAG**, and incorporated a feedback loop to increase response accuracy and speed
- Enhanced a funds sufficiency prediction model to optimize HR outreach through **Random Forest** and **XGBoost**, employing hyperparameter tuning, oversampling, and threshold testing to attain a 30% reduction in class 0 error and a 95% F1 score

Pax8

Remote

Data Analytics Intern

Jan – Jun 2023

- Implemented a new system to assess employee engagement, transitioning from yearly to quarterly surveys and expanding metrics tracked from solely eNPS to 24 key engagement drivers, boosting response rate to over 85% across 1,600 employees
- Created 4 dynamic dashboards in **Qualtrics** enabling data filtering, benchmark comparisons, and identification of statistically significant deviations with a 95% confidence interval, improving leadership accessibility to employee engagement data
- Investigated departmental productivity rates, through surveys, focus groups, and interviews to propose and implement a restructuring plan focused on standardizing reporting and clarifying roles, ultimately increasing employee satisfaction

EXTRACURRICULARS

Matteo Pellegrini Lab

Los Angeles, CA

Research Assistant

Sep 2023 – Sep 2024

- Used Python and **Linux** to apply the **SPLASH2** unsupervised, reference-free algorithm, and the **Jellyfish** command line tool, for statistical analysis of k-mer composition, on 2000+ genome FASTQ files, then performed principal component analysis

UConsulting

Los Angeles, CA

Director of Data Science

Jan 2022 – Jan 2023

- Prepared and analyzed the data of 300+ student applications in **Excel** with the ELO rating system to expedite member recruitment
- Co-organized and presented 4 workshops to teach fundamentals of SQL, Excel, Tableau, and survey design to 40+ club members

UNIQLO California LLC

Los Angeles, CA

Undergraduate Consultant

Sep 2022 – Jan 2023

- Forecasted in-store demand for extended sizes and calculated future inventory composition by analyzing online sales data in Excel
- Spearheaded a team of 4 to maximize holiday season profits with sustainability initiatives and a revamped store website

PROJECTS

Portfolio Optimization

- Analyzed 5 years of returns data in **R** to optimize fund allocations for a portfolio of 30 stocks across 5 industries and the S&P 500
- Compared tangency portfolios from the Markowitz, constant correlation, single-index (with adjusted betas), and multigroup models – with and without short sales; tested performance over 4 years with metrics such as the Sharpe ratio and visualizations

Song Popularity Regression

- Processed a Spotify dataset of 30,000 songs and 20+ variables in R, then fit a linear regression model to investigate song popularity
- Improved the model by addressing outliers, applying transformations and variable selection, achieving an adjusted R-squared over 0.5

ADDITIONAL

Skills: Python, SQL, R, C++, Linux, Spark, Apache Airflow, Machine Learning, Data Automation, Algorithms, LLMs, Tableau, Excel

Interests: Club Track & Field, Horse Riding Show Jumping, Hiking, NYT Games, Paint by Numbers, Fantasy Romance Novels, Sitcoms