Maxwell Chu

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Education

University of California, Los Angeles (GPA: 3.93) Exp. June 2026
Los Angeles, CA

B.S. Statistics and Data Science
Minors in Computer Science, Bioinformatics, and Mathematics

Relevant Coursework: Python, Data Science Technologies, Data Science Fundamentals, Data Analysis, Databases & RDBMS, Statistical Models & Data Mining, Machine Learning, Data Structures, Algorithms & Complexity, GenAI with LLM's, Computational Stats with R, Optimization for Statistics, Experimental Design, Probability, Linear Algebra

Relevant Experience

UCLA Dept. of Medicine Statistics Jan. 2025 – Present
Assistant Data Engineer *Los Angeles, CA*

- Engineering an interactive dashboard in R with dynamic visualizations for data integration of 21 studies in Alzheimer's research, streamlining research into a central data hub.
- Querying MySQL database to merge data into a unified format, enabling integration into the dashboard.
- Debugging & documenting 2000+ lines of code and employing GitHub for version control, enhancing project clarity for non-technical audiences.

CourseKata Business Analysis, DataFest 2024 | *RStudio, Tableau* Apr. 2024

- Assembled data pipelines to preprocess, merge, and transform data sets of user website experience totaling 300,000+ rows and 50+ columns; conducted EDA to explore business analytics questions and do feature engineering.
- Verified pain points of student performance with statistical tests, informing solutions to improve engagement.
- Self-taught Tableau to design a dashboard of heatmaps; communicated technical data analysis to non-technical reps, all done in a fast-paced environment in under 48 hours.

Spotify Data Analysis | *SciKit-Learn, TensorFlow* Sep. 2024 – Dec. 2024

- Built LASSO logistic regression and random forest models to do feature selection, then designed data visualizations to analyze feature importance; used PCA to reduce problem complexity and attempted clustering algorithms.
- Monitored neural network results to analyze for overfitting; solved using dropout and weight decay, improving test accuracy from 30% to 55%, and further tuned hyperparameters via grid search, reaching 60.4% acc.
- Visualized variable multicollinearity and distributions using Matplotlib and derived insights to preprocess a data set of 114,000 rows and 20 cols and reduce problem complexity, improving model accuracies by over 30%.
- Initiated meetings, assessed individual strengths to delegate work, and aligned project goals and methods to meet project deadlines.

ML Classification of 2020 Election Outcomes | *RStudio* Jun. 2024 – Aug. 2024

- Assembled a Tidymodels modeling pipeline to build and fit random forest, boosted tree, bagged tree, naive bayes, and SVM models for binary classification; tuned hyperparameters via grid search and Bayesian optimization to improve test accuracy from 89% to 95%.
- Cut runtime cost by nearly 50% by parallel processing, and analyzing and narrowing hyperparameter ranges.
- Visualized variable distributions and class imbalances using ggplot; applied insights to make model-specific variable transformations, improving prediction accuracies by up to 30%.

Web Scraping & CNN Classification of Snakes | *Selenium, Keras* Sep. 2024 – Dec.2024

- Developed reusable code to web scrape images for any prompt, aggregating a data set of 3000+ snake images.
- Absorbed concepts in deep learning, transformers, and network architecture with Coursera to optimize sequential layers and hyperparameters of CNN, achieving an 80% test accuracy.
- Solved CNN overfitting with image augmentation and dropout, improving to 97.57% test accuracy.

Skills

Languages: R/RStudio, Python, SQL, Linux/Unix/Bash, C++, LaTeX, Java, JavaScript, HTML
Developer Tools: Tableau, PowerBI, Databricks, Snowflake, GitHub, Jupyter Notebooks, Google Cloud Platform, Excel
Libraries: NumPy, Pandas, SciPy, PyTorch, TensorFlow, Keras, SciKit-Learn, Matplotlib, Plotly, Tidyverse, Tidymodels, ggplot, Selenium, Beautiful Soup, Shiny
Soft Skills: Team Player, Self-Starter, Attention to Detail, Mettle, Intellectual Curiosity, Problem-Solving
Fun Stuff: Rock Climbing, Camping, AI, Philosophy of Mind/Language, NLP, Computer Vision, GPT, Network Theory