Kevin Chow

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Education

Master of Information and Data Science (MIDS) Aug 2023 - Present

- *University of California, Berkeley* (GPA: 3.96) *Expected Graduation: Aug 2025*

Bachelor of Science (B.S.) in Mechanical Engineering Aug 2016 - May 2020

- *University of California, Berkeley*

Technical Skills

Programming & Databases: Python, SQL, Big Data, Data Engineering, Data Management, ETL

ML & AI Frameworks: TensorFlow, PyTorch, scikit-learn (sklearn), Hugging Face, LangChain

Modeling & Techniques: LLMs, NLP, RAG, Prompt Engineering, Machine Learning, Statistical Modeling, Predictive Modeling, Deep Learning, Computer Vision, GenAI, Feature Engineering, Model Deployment

Tools & Cloud: AWS, Agile, Pandas, NumPy, Matplotlib, Power BI, Streamlit, FastAPI, Git (Github)

Projects

RxRadar: AI-Powered Medication Management - *Gen AI, LLMs* June 2025 - Aug 2025

- Led a team in building an AI-driven platform to combat the effects of fragmented healthcare.
- Utilized pharmaceutical data to **identify critical drug interactions and duplicates**, directly addressing a problem that contributes to 5% of senior hospitalizations.
- Used a **rule-based lookup system + Gemini 2.0 to deliver insights** through digestible, plain-language alerts, empowering patients and their caregivers to safely navigate complex medication regimens.
- Conducted **user testing** and gathered **customer feedback** to guide evaluation and improve the MVP.
- Architected and deployed a scalable solution on **AWS** using a **FastAPI** backend and a **Streamlit** frontend to ensure high availability and a user-friendly experience.
- Implemented spell-checking, drug disambiguation, and a persistent alert log to store critical drug risk information, facilitating accurate alerts and effective follow-up discussions with healthcare providers.

Tailored Knowledge Retrieval Using RAG and LLMs - *Gen AI, LLMs, NLP* Mar 2025 - Apr 2025

- Engineered a Retrieval-Augmented Generation system using **LangChain** and **Mistral-7B** to enhance Q&A capabilities, delivering precise, context-aware responses regarding machine learning and AI.
- Implemented **RAG evaluation metrics** (P@K, semantic similarity, readability) and developed a weighted scoring system to drive iterative **system improvement and model tuning.**
- Optimized semantic search of unstructured data and designed audience-specific pipelines by experimenting with embedding models, chunking strategies, retrievers, re-rankers, LLMs, and prompt engineering, **improving answer accuracy and reducing hallucinations**.

Predicting and Ranking Online Business Review Helpfulness - *NLP* Sept 2024 - Dec 2024

- Led a team in developing an **ensemble ML model** to predict and rank Yelp review helpfulness, leveraging advanced NLP and feature engineering for improved ranking accuracy and business insight.
- Engineered **diverse features** (readability, review aspects & nature, business type) and utilized **transformer models** (BERT, BART-large-MNLI) to enhance representation and model performance.
- Trained and tuned individual **statistical models** (Random Forest, SVM, Tobit Regression) and integrated them into a final ensemble model, achieving an **NDCG score of 0.9595** in ranking review helpfulness.
- Identified business type as a critical predictive factor, enabling data-driven strategies for enhanced **business optimization and customer experience**.

Making Manga Stories Accessible - *Object Detection, Classification* June 2024 - Aug 2024

- Led a team in training a **deep learning model** to improve manga accessibility for visually impaired audiences by detecting and classifying faces, body parts, text, and panels across **20,000+ pages.**
- Utilized the Hungarian algorithm for optimal bounding box matching and a **custom loss function** (based on class, distance, and IoU metrics) to significantly **improve detection accuracy and model performance.**
- Improved model performance by replacing a U-Net baseline with a tuned DETR transformer model, **reducing loss by 58%** and achieving **a 24x improvement in mAP**.

Experience

Resource Demand Modeling Data Analyst - *General Motors* Aug 2022 - Present

- Directed global data strategy and led Powertrain & Electrification modeling initiatives, **developing new features and forecasting models** that improved resource demand accuracy by **~35%**, directly contributing to operational efficiency.
- Modernized modeling processes by designing **scalable data solutions** and developing **Python** automation scripts for efficient data ingestion, processing, and analysis, supporting end-to-end analytical solutions.
- Led cross-functional collaboration with finance, HR, IT, and engineering stakeholders to define requirements and guide the development of **robust analytical solutions** and **data integration**, driving business innovation.
- Managed internal databases and forecasting models, integrating model outputs into Power BI dashboards and **communicating key insights to senior leadership** for portfolio-level decisions and profitable growth in electric vehicle innovation.
- Proactively introduced innovative data techniques to support Vehicle-side modeling, addressing systemic blind spots and improving demand forecasting accuracy across all programs by **~15%**.
- Mentored and trained junior team members in data analysis and modeling tools, enhancing team capabilities and knowledge transfer in predictive modeling.

Engineering Rotational Program - *General Motors* July 2020 - Aug 2022

A two-year rotational program across multiple engineering disciplines, focused on technical breadth and leadership.

- Analyzed consumer intelligence, customer feedback, and warranty data to generate **key quality insights** and inform strategic program decisions, ensuring **improved customer experiences**.
- Led cross-functional investigations to resolve critical design oversights, **delivering data-driven redesign recommendations** for timely resolution.
- Managed AV systems integration between GM and Cruise, leading cross-functional planning to **streamline development workflows**, optimize operational efficiency, and deliver the first fully autonomous ride in San Francisco.
- Streamlined change control processes, prioritizing high-impact requests and proactively resolving bottlenecks, resulting in **~25% reduction in feature deployment delays** and improved operational efficiency.
- Managed a Power BI dashboard to ingest, process, and visualize complex change control data, significantly improving reporting efficiency and stakeholder visibility.
- Led and collaborated with **Agile feature innovation teams** to deliver infotainment solutions across the global portfolio.
- Modeled validation case diagrams to simulate customer use scenarios and inform testing requirements.