Tiancheng Daniel Dai

10911 Rochester Avenue | 540-497-1512 | danieldai21@ucla.edu | www.linkedin.com/in/danieldaitc

Education

University of California Los Angeles (UCLA) | Los Angeles, CA **Expected Jun 2026**

B.S. in Applied Mathematics & B.S. in Statistics and Data Science | GPA: 3.985/4.00 | GRE: 331(170Q)

- **Relevant Coursework**: Machine Learning, Optimization, Stochastic Processes, Monte Carlo Methods, Time Series, Probability Theory, Linear Regression, Numerical Methods, Linear Algebra

Research Experience

Ozcan Research Group|*Research Assistant under Dr. Aydogan Ozcan*|Los Angeles, CA **Oct 2025 – Present**

- Selected as one of 20 participants in the year-long program to research ML models for computational microscopy, producing and presenting a poster on findings.
- Reviewing prior research and code implementations on neural network–based image translation for virtual staining, focusing on diffusion models, U-Net architectures, and upsampling/downsampling pipelines.

Trustworthy AI Lab|*Researcher under Dr. Guang Cheng*|Los Angeles, CA **Mar 2025 – Sep 2025**

- **Agentic AI as Financial Advisor:** Created a multi-agent workflow using LangGraph, employing 10+ specialized MCP tools in Claude AI and tabular reasoning to enable Table-GPT to perform in-depth analysis on stock data; achieved 80%+ test coverage on complex financial question sets with high model consistency.
- **Weather-Driven Market Forecasting:** Fine-tuned Microsoft's Aurora model with high-res data to predict peak local daily temperatures with <1.5°C error, enabling trading strategies in weather-prediction markets.
- **Options Trading Simulation:** Developed and simulated a pre-earnings long strangle options strategy in Python; executed daily trades via TWS API, yielding an average 15% return per earnings window period.

Shareholder Letter Analysis|*Research Assistant under Dr. Andrea Eisfeldt*|Los Angeles, CA **Jan 2025 – Aug 2025**

- Collaborated on a FinBERT-based analysis of shareholder letters to identify recent firm-level investment strategies, using clustering techniques on pooled embeddings to find cross-sectional & temporal patterns.
- Curated a database of 1,500 shareholder letters and engineered a high-accuracy (95%+) PDF-to-embedding workflow using parsing libraries and regex pipelines for consistent text and metadata extraction.

Time Series Application in Economics|*Researcher under Dr. Peter Kempthorne, MIT*|Online **Apr 2024 – Jun 2024**

- Completed a 10-week reading group review on forecasting methods in economics, including ARIMA, VAR, exponential smoothing, and structural break models, with weekly case studies and peer discussions.
- Led a group research project analyzing COVID-19's impact on the travel industry; designed research methodology, delegated modeling tasks, and synthesized forecasting outputs; independently implemented a Prophet model in R, treating the outbreak as a holiday effect to quantify a 20% supply shock on the PPI.
- Applied ARIMA to quantify the pandemic's effects on U.S. job openings across three sectors; validated models using ADF and Ljung-Box tests and identified a 35% immediate decline and 12% long-run loss.

Work Experience

Bank of China Wealth Management | Data Analyst Intern **|** Beijing, China **Jun 2024 - Aug 2024**

- Cleaned and processed bond market data from Bloomberg Terminal using SQL built dashboards tracking issuance, yield curves, and macro spreads, cutting manual reporting by 30%.
- Backtested rule-based fixed income strategies using historical Bloomberg data in Python; evaluated yield spread widening/narrowing trades using the Sharpe ratio, max drawdown, and other risk-adjusted metrics.
- Conducted data-driven report on China–U.S. interest rate inversion, identifying key factors including inflation differentials and monetary policy divergence; presented findings to inform trading strategies.

Pacific Alliance Group | Business Analyst Intern **|** Shanghai, China **Jun 2023 - Aug 2023**

- Benchmarked three leading HR SaaS providers via SQL-based KPI analysis (retention, EBITDA, pricing) to support a $1.86B strategic privatization opportunity.
- Conducted a 5-year cash flow model in Excel by identifying growth rates and applying trend analysis, and finding valuation multiples(e.g., PV/EBITDA) to evaluate the viability of a $1.94B buyout target.
- Forecasted China's battery storage grid parity timeline by reviewing industry research; created Tableau dashboards with 5 visualizations on PV battery output, efficiency, and market share to support analysis.

Leadership and Involvement

DataTalks Consulting at UCLA | *Co-founder, President* **|** Los Angeles, CA **Mar 2024 - Present**

- Founded UCLA's first data consulting club, delivering pro-bono analytics to Southern California nonprofits; led 5+ client projects and contributed 100+ hours of hands-on data science, leadership, and strategy.
- Built a logistic regression model in RStudio to improve adoption likelihood for a local animal welfare nonprofit, improving actual outcomes by 18%; led a separate 6-member team in UX analytics, stakeholder interviews, and SEO data analysis that drove a website redesign and saved $15,000 in discovery costs.

Technical Skills

- **Programming Languages**: Python, SQL, R, C++, Java, JavaScript, MATLAB
- **Libraries**: NumPy, Pandas, Scikit-learn, PyTorch, TensorFlow, XGBoost, Matplotlib, Seaborn, BeautifulSoup
- **Data Tools**: Tableau, Power BI, Excel, Bloomberg Terminal, MongoDB, Apache Spark, Amazon Redshift