Alexander Le

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Education

University of California, Berkeley Berkeley, CA
B.A. Statistics, B.A. Economics — Minor: EECS Expected May 2027

- **GPA:** 3.8/4.0
- **Awards:** Hack with Claude Winner, Haas Hackathon (2025); 3rd Place ACPC @ UC Davis (2023)

Publications

Pragmatic Metacognitive Prompting Improves LLM Performance on Sarcasm Detection January 2025
Association for Computational Linguistics (ACL) aclanthology.org/2025.chum-1.7.pdf

- Developed Pragmatic Metacognitive Prompting framework for LLM sarcasm detection, achieving state-of-the-art performance on GPT-4o across MUStARD and SemEval2018 benchmark datasets
- Demonstrated 15-20% F1 score improvement through pragmatic reasoning and metacognitive reflection strategies across LLaMA-3-8B, GPT-4o, and Claude 3.5 Sonnet architectures

Experience

California Volunteers, Office of the Governor **October 2023 - April 2025**
Digital Infrastructure Intern *Sacramento, CA*

- Automated operational processes using Python/Selenium pipeline processing 50,000+ monthly records, reducing manual processing by 75% and recovering 120+ labor hours quarterly through advanced Excel transformation and validation systems
- Built Excel-based dashboards with pivot tables, VLOOKUP/INDEX-MATCH, Power Query, and conditional formatting for operational reporting; implemented cron scheduling with 99.9% uptime for data integrity monitoring

Intel Corporation **June 2022 - September 2022**
Data Science Intern *Folsom, CA*

- Built predictive analytics models (SARIMAX + XGBoost) improving demand forecast accuracy by 15% across 200+ SKUs, enabling data-driven inventory optimization decisions
- Created interactive dashboards aggregating supply chain metrics in Python (Matplotlib/Seaborn), reducing excess inventory by 12% through improved operational analytics

Technical Projects

- **Emporia AI Platform** — *Python, FastAPI, Next.js, Ollama, PostgreSQL* **January 2025**
  - Building full-stack life sciences platform automating clinical claims matrix generation using local LLM (Llama 3.1) at $0-7/month pilot cost
  - Implementing RAG architecture with vector embeddings for medical literature analysis and pharmaceutical compliance workflows
- **Options Trading Analytics** — *Python, YFinance, Pandas, Matplotlib, SQL* **September 2024**
  - Built Python-based analytics platform for options strategy backtesting and P&L analysis using historical market data from YFinance API
  - Developed automated reporting dashboard tracking key metrics (Greeks, IV, portfolio risk) with SQL database for trade data aggregation

Competitions & Activities

- **DoD CyberSentinel Challenge (May 2024):** Competed in Department of Defense cybersecurity competition solving challenges in cryptography, steganography, and digital forensics
- **Leadership:** CS Undergraduate Association (Officer), CALICO Informatics Competition (Problem Writer), Berkeley Math Tournament

Technical Skills

Excel: Advanced proficiency - Pivot Tables, Power Query, VLOOKUP/INDEX-MATCH, Conditional Formatting, Data Validation, Macros

Programming: Python, SQL, VBA, JavaScript, HTML, R, Bash, C++, Java, Rust, Go

Data & Analytics: NumPy, Pandas, Matplotlib, Seaborn, Scikit-learn, Tableau, Jupyter, Statistical Modeling

Financial Markets: Bloomberg Terminal, AlphaSense API, YFinance, Options Pricing, Time Series Forecasting

Automation & Infrastructure: Selenium, Git, Docker, PostgreSQL, AWS, Process Automation, ETL Pipelines