Albert Kong

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Education

New York University **Sep 2023 - May 2025**
M.S. Data Science *New York, NY*
University of California - San Diego **Sep 2019 - June 2023**
B.S. Data Science, Minor in Business *La Jolla, CA*
Relevant Coursework: Machine Learning, Deep Learning, Natural Language Processing, Probabilistic Theory, Recommender Systems

Skills

Technical Skills: Machine Learning, Deep Learning, Natural Language Processing, Web Scraping, Statistical Analysis, AI Generated Content, Large Language Models, Retrieval Augmented Generation, Full-stack Development, DevOps, MLOps
Tools: Python, PySpark, SQL, R, Java, C/C++, PyTorch, Tableau, PowerBI, Django, React, Javascript
Modeling Methods: A/B Testing, Hypothesis Testing, Bootstrap, Data Mining, Time-series Analysis, Multivariate Models

Working Experience

GardenStar Group **Sep 2024 - Present**
Data Scientist Intern (Part-time) *New York, NY*
- Analyzed real estate market trends, pricing models, and property valuation for a 150-acre luxury resort project.
- Designed and implemented a data storage and analytics platform based on Medallion Architecture using **AWS** services, including **S3** for storage, **LakeFormation** for cataloging, **Glue** for processing, and **Athena/QuickSight** for analysis and reporting.
- Automated web data scraping pipeline using **Python**, allowing instant dataset creation.

BNP Paribas CIB **June 2024 - Aug 2024**
AI Engineer Intern *New York, NY*
- Developed and implemented advanced evaluation methodologies for Large Language Models (**LLMs**) tailored to business-critical applications, ensuring alignment with industry-specific needs.
- Optimized LLM architecture and algorithms, achieving a 20% improvement in model recall and reducing runtime by 30%.
- Designed and architected an automated fact-checking pipeline leveraging the LangChain framework, integrating Retrieval-Augmented Generation (**RAG**) techniques to boost model response precision by 15%
- Engineered a relevancy-checking pipeline for RAG models, resulting in a 25% increase in the similarity score of retrieved materials

Yijiahe Technology Co. **Jun 2023 - Aug 2023**
Machine Learning Engineer Intern *Nanjing, China*
- Trained and fine-tuned quantized **LLM**-based voice-controlled robot system that converts human commands into executable code
- Enabling robot to process commands with ambiguous semantics (mapping score <0.5), high knowledge dependency (knowledge graph depth >3 hops), and high planning complexity (number action steps > 10)
- Constructed **ROS** service and client nodes and wrote task constructors and planning in **C++**, and tested in **MoveIt** and **Gazebo**

Publications and Projects

AI-Powered Trading Signal Dashboard **Feb 2025 - Present**
AlbertKong0827/trading-signals-dashboard
- Developed a real-time trading signal dashboard with **AI-driven multi-agent framework** for US stock market analysis, providing actionable investment insights on market, fundamentals, technical, sentiment, and risk perspectives .
- Achieved **+12% cumulative return in 7 trading days** through backtesting.
- Developed a **full-stack dashboard** using **FastAPI (Python), React (Next.js), TypeScript, and PostgreSQL**, enabling users to input stock tickers and receive live trading signals with market insights.
- Implemented **WebSocket-based real-time updates**, ensuring signals sentiment dynamically reflects the latest market.

TEAFormer: TEnsor-Augmented Transformer for Multi-Dimensional Time Series Forecasting **Mar 2024 - June 2024**
[2410.20439] TEAFormers: TEnsor-Augmented Transformers for Multi-Dimensional Time Series Forecasting
- Developed a novel multi-dimensional **(tensor) time series Transformer architecture**, integrating a Tensor-Augmentation module with Transformer-based models. This is a frontier study to apply tensors in transformers.
- Designed a Tensor-Augmentation module that performs tensor expansion and compression, enabling efficient multi-view feature learning while reducing computational costs of self-attention and information aggregation.
- Conducted experiments demonstrating TEAFormer outperforms baseline models across six real-world benchmarks.

Big Data Movie Recommender System, *DSGA 1004 Big Data Capstone Project* **Apr 2024 - May 2024**
- Developed a movie recommender system using **Apache Spark**, leveraging a dataset of **6 million** records
- Built and evaluated a popularity model based on average ratings and **Alternating Least Squares** for matrix factorization

Video Sharing Website Development **May 2023 - June 2023**
AlbertKong0827/VideoSharingWebApp
- Full-stack developed a video sharing website using **Django** framework with functions including user signup, video CRUD operations, commenting, sharing, category searching and filtering, and recommendations
- Technologies used: **Python, Django, HTML/CSS, REST framework, Django-Allauth**