Jisung Lee

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EXPERIENCE

A1 College Prep **Los Angeles, California**

Website Developer *June 2023 – August 2024*

- Engineered a full-stack website using the MERN stack, integrating Stripe APIs to manage member payments, improving transaction efficiency by 25% and automating financial reporting.
- Enhanced UI responsiveness by 35% and reduced load times by 30% through code profiling and asynchronous data loading.
- Applied A/B testing and multivariate analysis of click-through rates, bounce rates, and session duration to evaluate and optimize website performance, integrated D3.js and Google Analytics API for real-time monitoring of traffic and financial performance.

CBC Tech Inc. **Los Angeles, California**

Financial Systems Developer *December 2023 – August 2024*

- Developed and optimized a web-based financial management system using Python, SQL, and JavaScript, automating budgeting, expense tracking, and financial forecasting, resulting in a 20% reduction in manual accounting errors.
- Designed and deployed data validation scripts to ensure real-time integrity of financial transactions, leveraging SQL query optimization to enhance database performance and reduce query processing times by 25%.
- Built data visualization dashboards using Matplotlib and Plotly to display key performance indicators (KPIs) such as ROI, budget variance, and expense breakdowns, providing actionable insights for the leadership team.

RESEARCH

Market Sentiment Analyzer for Stock Price Prediction

Project Lead/Developer *March 2023 – Jan 2024*

- Developed a tool to predict short-term stock movements by combining sentiment analysis from news (using spaCy and TextBlob) , real-time stock data (using Alpha Vantage API), and common technical indicators like MAs and RSI.
- Applied backtesting using historical data to refine the model, adjusting sentiment weightings and technical parameters to improve signal precision and overall strategy performance.
- Visualized stock trends, sentiment scores, and buy/sell signals using Matplotlib and Plotly, allowing for real-time monitoring and decision-making, improving prediction accuracy by 15%.

PineScript Trading Algorithm

Personal Project *Jan 2024 – August 2024*

- Developed a PineScript algorithm that combined MACD crossovers, RSI divergences, and derivatives pricing models with a custom weighted candle system to filter out large, volatile moves and reduce false signals, improving trade accuracy and increasing profitability by 40%.
- Collaborated with an eight-figure trader to refine the strategy through statistical backtesting, achieving a reported 15% boost in risk-adjusted returns.
- Applied dynamic position sizing and delta-neutral hedging principles to balance risk exposure and reduce drawdown by 10%, demonstrating improved portfolio management and execution.

QUANT Discord Bot

Personal Project *Jan 2024 – Present*

- Developed a bot that aggregates financial data, automates technical analysis, integrates user profiles for sharing trade insights and provides real-time market sentiment comparison, resulting in an approx. 30% improvement in user decision-making speed.
- Integrated APIs to pull real-time financial market data, increasing decision-making speed and accuracy by 30%.
- Tested in closed beta server, user-reported data shows average 15% improvement in trade accuracy and profit over three months.
- Utilized a custom strategy to scrape web data and public financial datasets, generating a Bull vs Bear sentiment chart tailored for scalping, day, swing and position trading, to analyze market trends and identify potential reversals with greater precision.

SKILLS

- Proficient programming skills in Java, Python, C++, MATLAB, R, SAS, VBA, SQL, PineScript
- Research in Stochastic Calculus, Brownian Motion, PDE, ODE, Monte Carlo simulations, Finite Difference Methods
- Experience with IntelliJ, PyCharm, Eclipse, AWS, Jupyter Notebooks, Git, Spring Boot, Agile, Docker, SQL Workbench, TradingView
- Languages: English (Native), Korean (Native)

EDUCATION

Harvard University **Cambridge, Massachusetts**

CSCI S-20 - Discrete Mathematics for Computer Science *Summer 2021*

University of California, Berkeley **Berkeley, California**

B.S. in Computer Science & Statistics *Expected Graduation, May 2027*

- **GPA:** 3.8 / 4.0, **Concentrations:** Quantitative Analysis, AI, ML