

Karan Shah

+1 (929) 218-5897 | karanshah.cs@gmail.com | <https://www.linkedin.com/in/karanshahh> | <https://github.com/karanshahh>

PROFESSIONAL EXPERIENCE

Software Engineer Intern

May 2023 – Aug. 2023

Mismo (Inkey.ai), San Francisco CA

- Collaborated with the product team during regular stand-up meetings to identify and resolve user engagement bottlenecks, resulting in a 30% increase in user retention through user behavior analysis and A/B testing.
- Led the design and implementation of 10+ strategic features in NextJS and APIs (OpenAI, SerpAPI) like Sentence Expander, Essay Writer, and Citation Generator, supporting 1000+ students globally with contextual suggestions and resources.
- Achieved a 25% increase in user engagement and 20% improvement in search engine rankings, exceeding KPIs and contributing significantly to strategic objectives during a pivotal expansion phase.

Data Engineer Intern

May 2022 – Aug. 2022

Beautymanntra, Vadodara GJ

- Developed a custom salon management software solution using Java and MySQL to address operational inefficiencies identified by the CEO, resulting in a 35% sales boost.
- Collaborated with management, finance, and marketing teams to define data requirements and establish data governance policies.
- Utilized Java's JDBC API to automate SQL queries for pulling, storing, and updating product inventory levels, staff, and client data.
- Conducted training sessions for 100+ employees to effectively utilize the salon management software, resulting in a 40% reduction in time spent on administrative tasks and a 20% increase in productivity.

PROJECTS

Algorithmic Trading System

Mar. 2024 - May 2024

- Developed an algorithmic trading system using C++ for a hypothetical trading firm, implementing momentum trading strategies.
- Incorporated real-time market data handling, automated trade execution, and backtesting with historical data for strategy validation.
- Integrated risk management protocols, including stop-loss orders and portfolio diversification, to optimize trade performance and mitigate losses.

Forecasting Natural Gas Futures

Jan. 2024 - May 2024

- Led a team of 4 to predict key price drivers of UNG futures contracts using market speculation and global economic indicators.
- Utilized data sources including export/import data, CPI, PCE, and weather conditions to inform research and forecasting efforts.
- Applied Heatmap and Principal Component Analysis to identify key price drivers for UNG, forecasting the prices using Linear Regression with an accuracy of 86%.

Sports Arbitrage Application

Jan. 2024 - Mar. 2024

- Used Python and BeautifulSoup for webscraping, identifying, and extracting 50+ arbitrage opportunities from various sportsbooks.
- Developed an arbitrage betting calculator for optimal stake allocation to maximize profits among various sportsbooks.

LEADERSHIP EXPERIENCE

Vice-President, HokieStone Capital

Sept. 2022 – May 2024

Virginia Tech, Blacksburg VA

- Guided the implementation of mean reversion trading strategies, resulting in a 15% increase in portfolio returns.
- Led a team of 3 analysts in financial modeling and risk analysis using Monte Carlo simulations and VaR assessments, enhancing investment decision making processes.
- Oversaw the creation & maintenance of algo trading models using Python, Matlab, R, including pairs trading & statistical arbitrage.

AWARDS

- Achieved All India Rank 4 in International Informatics Olympiad among 1000+ participants
- Runner-up in the Virginia Tech Integration Bee (2021) among 20+ participants.
- Invited participant in the Akuna Capital Options 201 Course (Invite-only)

TECHNICAL SKILLS

Languages: C/C++, Python, Java, MIPS Assembly, JavaScript, SQL, R, HTML, CSS, Scala, Ruby, Haskell, Pascal, Rust

Tools & Frameworks: Matlab, Mathematica, Git, Linux/Unix, Logisim, LaTeX, SOLIDWORKS, Figma, Jupyter Notebook, Docker

Web Development: Next.js, React.js, jQuery, Django, Bootstrap, Tailwind, Angular, Node.js, Express.js

Data Analysis and Machine Learning: sklearn, yfinance, matplotlib, numpy, pandas, TensorFlow, Apache Spark, Tableau, Power BI

EDUCATION

Virginia Tech, Blacksburg VA

Aug. 2020 - May 2024

Bachelor of Science in Computer Science

Bachelor of Science in Mathematics (Dual Degree)

GPA 3.5/4.0 (Dean's List – 4 out of 8 semesters)