Hanshul Bahl

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EDUCATION

University of Illinois At Urbana-Champaign 2022 - 2026
Bachelor of Science in Computer Science, Minor in Statistics and Mathetmatics *GPA: 3.98/ 4.0*

Relevant Coursework: Data Structures and Algos, System Programming, Algorithms and Models of Computation, Probability and Stats for CS, Machine Learning, Methods of Applied Stats, Linear Algebra, Database Systems

Honors: James Scholar, Dean's List, GFX Innovation Scholar, Innovation LLC
Activities: AQTE - Quant Education (Board Member), Disruption Lab

EXPERIENCE

Purple Squirrel Advisors June, 2024 - August, 2024
Software Development Intern
- Developed a **Spring Boot** application implementing row-level encryption using **AWS KMS**. Engineered secure **REST APIs** for CRUD operations, maintaining sub-**200ms** response times and **99.9%** uptime.
- Deployed on **AWS Elastic Beanstalk** with **CI/CD** pipelines, achieving seamless updates and scalability. Achieved **95%** test coverage through rigorous unit and integration testing, ensuring system reliability. Monitored performance with **AWS CloudWatch**, supporting high availability. Documented encryption protocols, key rotation, and disaster recovery procedures for maintainability and compliance.

Deliverview May, 2024 - August, 2024
Software Development Intern
- Achieved a **200%** increase in customer engagement by developing a web-interface using **React.Js** and **Node.Js**. Incorporated features like forms and service filters increasing user interaction by **70%**.
- Improved platform performance, scalability and cut-off costs by seamlessly integrating with **AWS S3, DynamoDB** and **Lambda** functions for efficient data processing and storage.

University of Illinois at Urbana Champaign August, 2024 - Present
Undergraduate Course Assistant
- Conducted office hours to aid **300+** students on topics surrounding discrete math and algorithms. Assisted in grading and led review sessions. Helped development of assignments and supplemental material.

PROJECTS

Option Pricing Web App May, 2024 - August, 2024
- Engineered a web app using **Streamlit** for Option-Pricing calculation based on **Black-Scholes, Monte Carlo, and Binomial Model** using Strike price, Spot price, Risk-free rate, Expiry Date and Volatility.
- Ran portfolio optimization based on different models to achieve a **38%** increase in potential return rate.

EasEstate: Estate Management February, 2024 - May, 2024
- Property management system using **SQL, Python, React** and **GoogleCloud** with a searchable interface allowing users to navigate through listed properties and interact using visualizations.
- Analyzed **5 million** data points to identify and track rental/purchase trends, to enhance user decision-making

Web-App and NLP model for Mental Health Detection and Support May, 2024 - June, 2024
- Developed an NLP model with **85%** accuracy to detect suicidal and depressive tendencies from **10,000+** Reddit posts using **TensorFlow** and **scikit-learn**. Built a real-time web scraper to enhance model performance, improving classification precision by **25%** and integrated **Google Maps API** for therapist location.

Automated Expert Advisor/Trading Bot March, 2023 - Present
- Designed and optimized an automated bot with **MQL5** with optimizations based on ADX, RSI and EMA comprising of **8+** Strategies; Ran **5000+** Optimizations. Achieved an **84%** increase in return rate through backtesting and **68%** return in forward testing on forex. Utilized **Order flow, SMC** and **ICT** strategies.

TECHNICAL SKILLS

Languages: Java, Python, C/C++, SQL, JavaScript, HTML/CSS, R, MongoDB, MQL5
Tools/Frameworks: Git, AWS, Azure, GCP, Node.js, Linux, Kubernetes, Storm, Spark, Flask, PowerBi, Neo4j
Libraries: OpenCV, Pandas, NumPy, Streamlit, Matplotlib, Pytorch, Tensorflow, SciKit-Learn, Keras, React