

# Hanshul Bahl

447-902-3135 | hbahl2@illinois.edu | linkedin.com/in/hanshulbahl

## EDUCATION

### University of Illinois At Urbana-Champaign

2022 - 2026

*Bachelor of Science in Computer Science, Minor in Statistics and Mathematics*

*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

## TECHNICAL SKILLS

**Languages:** Java, Python, C/C++, SQL, JavaScript, Go, HTML/CSS, R, Ruby, MQL5, Kotlin, Scala

**Tools/Frameworks:** AWS, Azure, GCP, Node.js, Linux, Sagemaker, MongoDB, Flask, PowerBi, Kubernetes, Neo4j

**Libraries:** OpenCV, SciKit-learn, Keras, Streamlit, Pandas, Pytorch, Tensorflow, NumPy, React, Keras, Retrofit

## 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 - June, 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.