KRISH BANSAL

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EDUCATION

Duke University   **August 2022 – May 2026**
Bachelor of Science in Computer Science and Applied Statistics | Minor in Math and Finance   Durham, NC
Relevant Coursework: Advanced Data Structures and Algorithms, Artificial Intelligence Models and Algorithms, Bayesian Statistical Learning

WORK EXPERIENCE

Amundi Asset Management   **Summer 2024**
Quantitative Software Engineer Intern   Durham, NC
- Engineered software to translate and backtest various agency mortgage backed-security portfolio strategies across 10+ international markets
- Optimized Pool-TBA allocations by implementing a customized RAS algorithm, accelerating process by 50%
- Spearheaded quantitative analysis and modeling on mortgage prepayments and delinquency rates using Monte-Carlo Simulations

Ethlas   **Summer 2023**
Software Engineer Intern   Singapore
- Created an end-to-end machine learning SaaS pipeline on Google Cloud, serving as an internal tool to generate new digital assets, cutting design time by 80%
- Evaluated 1000+ crypto-option contracts using Black-Scholes and Binomial Pricing models whilst accounting for staking conditions and pricing
- Facilitated launch of crypto-currency (ELS) and created scripts to continuously monitor trading activities and volatility

Duke AI Health   **Winter 2022**
Data Scientist Intern   Durham, NC
- Worked with university hospitals (UPenn, NYU, etc.) to create an AI predictive modeling suite to predict patient risk
- Built machine learning models (Random Forest, Deep Neural Networks, Naïve-Bayes Classifiers, etc.) for hip, knee, and shoulder surgery readmission risk
- Co-authoring research paper heading towards publishing in Journal of Advanced Shoulder Arthroplasty

Eugenie.ai   **Summer 2022**
Machine Learning Engineer Intern   Mumbai, India
- Designed and coded an anomaly detection model on sensor data from oil extraction rigs
- Deployed Hidden Markov models and Tsetlin Automaton models on an array of 90+ oil extraction machines for our client, ExxonMobil
- Predicted faulty behavior 7-days-in-advance with 98% accuracy, saving $100,000+

PROJECTS & EXTRACURRICULAR INVOLVEMENT

Zelt (zelt.finance) | Python, Flask, Firebase, Google Cloud, React   **Spring 2024 – Present**
- Zelt is a finance edtech platform allowing aspiring finance professionals to practice Excel modeling and receive feedback instantly
- Invented proprietary algorithm to check and evaluate correctness of models in Excel through a single unified web-platform
- 500+ recurring users and an agreement with Duke University to use it as a homework platform, generating $30K+ USD revenue YTD

Bull City Sports Analytics | Python, R, SQL, Stata   **Fall 2023**
- Implemented several AI models to predict player injury and attrition (offseason and in-season)
- Created tree models (94%+ accuracy) on NCAA, MLB, and Bundesliga data for our clients
- Met and provided consultation for several major sport organizations (Baltimore Orioles, Eintracht Frankfurt, Duke Men's Basketball, etc.)

Wearable Infection Detection Platform | MongoDB, Express, React, Node.js   **Winter 2022 – Summer 2024**
- Engineered full-stack platform to collect, store, and view high-frequency data from in-house wearable data using Apache Kafka
- Cut cloud storage and function costs by 40% via browser cache management and reducing document requests
- Developed on-web analytics tools to allow researchers to perform advanced data analysis in real-time

Participated in the following competitions: **Spring 2023 – Present**
- **Citadel Datathon:** Analyzed and pitched several stocks relevant to the airline industry, secured runners up position
- **Duke Hack4Good:** 2nd Place with a search engine that found the most economical and green method to travel in the United States
- **EBay Machine Learning Challenge**: Created transformer-based ML algorithm to auto-tag products across several languages, becoming a top 10%

Duke Quantitative Finance   **Fall 2023 – Present**
- Managing 100+ students, organizing 5+ poker events in collaboration with Optiver, Jane Street, etc.
- Helped create a new constitution, setup 4-month marketing plan, and rebranded the organization with new logos and slogan

SKILLS & INTERESTS

- **Languages:** Python, Java, C/C++, MIPS, HTML/CSS, R, Stata, SQL
- **Frameworks:** React, Node.js, Svelte, Flask, Django
- **Other Technologies:** Hummingbot, Vercel, Google Cloud, Blackrock Total Portfolio Workbench, Git, Bloomberg Terminal
- **Languages Spoken:** English, Hindi, Spanish, French
- **Operating Systems:** Windows XP/Vista/7/8/9/10, Linux