Anuraag Aravindan

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Education

University of Illinois Urbana-Champaign May 2026 (Anticipated)

Bachelor of Science in Computer Science and Economics, Minor in Statistics *GPA: 3.94/4.0*

- **Awards:** AIME Participant / AMC 10 Honor Roll (Top 2.5% Scorer), Deans List, ACT Score: 35
- **Relevant Coursework:** Data Structures and Algorithms, Linear Algebra, Differential Equations, Discrete Mathematics, Computer Science II, Statistics and Probability

Experience

Ordr Santa Clara, CA

Software Engineering Intern *June 2024 – Present*

- Engineered a **Python** script to process over **100,000+** CVEs in a **Cassandra** database. Automated the extraction and classification of device-specific information, enabling the generation of tailored reports for company clients.
- Built custom **React** components using **TypeScript**, driving the front-end redesign, enhancing code maintainability and scalability. Applied state management techniques ensuring seamless integration and performance.
- Developed and integrated custom, reusable **React** components, standardizing UI elements to enhance consistency. Reduced code redundancy and boosted development efficiency.

Image-Based Biomechanics Lab Champaign, IL

Undergraduate Researcher *Aug 2023 – Present*

- Developed computational predictive models using advanced statistical analysis to enhance experimental data processing for non-linear models. Designed non-invasive diagnostic tools for soft tissues based on these models.
- Engineered a deep learning particle tracking algorithm in **Python**, leveraging **computer vision** techniques to capture ligament strain data. Achieved a **300%** reduction in experimental time and **85%** tracking accuracy.
- Created a **Python** application for processing spatial data of material nodes, generating deformation gradients to extract and analyze constitutive mechanical parameters.

Cisco San Jose, CA

Software Engineering Intern *May 2022 – Aug 2022*

- Optimized enterprise network management using **SD-WAN** and subnetting techniques, enhancing IP address allocation, network security, and performance in **Cisco Packet Tracer**.
- Developed and presented the 'Huddle' app, a full-stack communication tool, to a panel of Cisco experts. Utilized **React** for the front-end, **Springboot** for the backend, and **SQL** for data management, demonstrating robust integration and functionality.

Activities/Projects

Quant @ Illinois Champaign, IL

Quantitative Researcher *Aug 2023 – Present*

- Specialized in trading straddles, employing **Bollinger Band Indicator** and **Put/Call Ratio** analysis to capitalize on market volatility.
- Developed and tested **Machine Learning** models (**XGBoost, GARCH, ARIMA, LSTM**) to predict realized volatility of **MSFT**, integrating a backtesting framework for performance evaluation.
- Developed a **Bivariate LSTM** model, successfully predicting a year's worth of realized volatilities with a **RMSE** of 0.024.

Epidemiology Simulator | *Python, NumPy, Matplotlib, ODESolver* Jan 2023 – Mar 2023

- Engineered a **SIR model simulator** allowing users to dynamically create and adjust epidemic scenarios, providing insights into disease spread and control measures.
- Applied differential equations and numerical methods to simulate and visualize the impact of diseases on controlled populations effectively.

Technical Skills

Languages: Java, Python, JavaScript, HTML/CSS, MATLAB, SQL, C++
Frameworks: AWS, Node.js, React, REST API, Stream API, Django, Firebase, Springboot, Postgre, TensorFlow
Libraries: pandas, NumPy, Matplotlib, OpenCV, scikit-learn, NLTK, statsmodel