Ishaan Venkat

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EDUCATION

University of Colorado Boulder, Boulder, Colorado **Expected May 2027**

Bachelor of Science in Computer Science

EXPERIENCE

WORK EXPERIENCE

Software Development Intern – Quadrant Technologies Inc. July 2024 – Aug. 2024

- Built and deployed a web-based internal analytics dashboard using React and Node.js, integrating with Azure Pipelines to streamline CI/CD workflows and reduce release time by 20%.
- Designed and optimized cloud-based data warehouses using Azure SQL, cutting data retrieval time by 28% and enabling real-time visualization for 5+ internal teams.

Software Development Intern – Sensoria Health Inc. Aug. 2022 – June 2023

- Enhanced cloud-connected physical therapy applications by developing backend features and resolving frontend bugs using C# and .NET, improving platform reliability and reducing client support tickets by 25%.
- Processed and analyzed patient activity data via Azure cloud services using C#, enabling automated progress reports that boosted therapist efficiency and personalized treatment for 200+ users.

Assistant Data Acquisition Lead – University of Colorado-Boulder Racing Team Sept. 2023 – Present

- Developed Python scripts to parse and visualize telemetry from CAN bus logs, driving aero package changes that improved track times by 3.2%.
- Troubleshot sensor integration issues using logic analyzers and oscilloscope data, ensuring full data reliability across ECU-linked subsystems.

Undergraduate Research Assistant – Human Interaction and Robotics Lab @ CU Jan 2025 – May 2025

- Built a fail-active motion generation system using PyTorch diffusion models in ROS2, maintaining trajectory feasibility under partial actuator failure.
- Demonstrated a 60% increase in recovery rate over baseline planners (e.g., RRT) in simulated joint-failure environments

Director of Design – The Mu Foundation May 2022 – July 2023

- Developed a structured learning dashboard for an education nonprofit using JavaScript, HTML/CSS, and Express, serving 1,000+ students across STEM disciplines.
- Resolved over 20 production-level bugs and overhauled the site's UI/UX to meet WCAG 2.1 accessibility standards, improving user satisfaction based on feedback surveys.

AWARDS

Competitor (2nd Place Overall) – UChicago Trading Competition Mar. 2025

- Placed 2nd out of 40+ teams from MIT, Stanford, UChicago, and other top universities in a two-day quantitative finance competition hosted by the University of Chicago.
- Case 1 – Live Trading (3rd Place): Built a low-latency async Python trading bot to act on structured/unstructured news with sub-2s response time, including dynamic ETF arbitrage and real-time strategy toggling via a custom graphing tool (Waggle).
- Case 2 – Portfolio Optimization (4th Place): Engineered a Sharpe-optimizing portfolio allocator by reverse-engineering asset generators using geometric Brownian motion and training a scikit-learn neural network (MLPRegressor) to forecast latent z-score dynamics—achieving a 123.7 annualized Sharpe ratio and outperforming traditional statistical models.

TECHNOLOGY SKILLS

HTML, CSS, Python, Networking systems, APIs, SQL, React, Expo, Node.js, Arduino, C, C++, Git, Heroku