

Jeffrey Lu

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EDUCATION

University of Illinois Urbana-Champaign

Expected May 2027

Bachelor of Science in Computer Science, Minor in Statistics

GPA: 4.00

Relevant Coursework: Data Structures, Computer Architecture, Probability & Statistics for Computer Science, Discrete Structures, Multivariable Calculus, Linear Algebra

EXPERIENCE

Quant@Illinois

Sep. 2024 – Present

Quantitative Analyst

Champaign, IL

- Collaborated with a team to research historical data and strategies for identifying emerging trading opportunities
- Developed and backtested pairs and momentum trading strategies using Python in QuantConnect, achieving an 11% return on simulated portfolios over 6 months
- Organized social and networking events to connect with others in the quantitative finance community on campus

Northwestern University

May 2023 – Oct. 2023

Research Assistant

Evanston, IL

- Assessed the effects of drilling holes with varying shapes and orientations on the performance of type-II superconductors
- Developed and executed bash scripts in Unix to automate CUDA simulations that determine the conductivity of superconductors with different hole configurations
- Visualized and analyzed the results using Python Matplotlib and NumPy
- Wrote a report and presented findings at a research symposium

PROJECTS

Discord Bot | Python

Apr. 2021 – Present

- Developed and maintained a bot serving over 200 users across 4 global servers, ensuring 99.9% uptime
- Integrated Discord API, YouTube API, and web scraping to automate real-time content retrieval and processing
- Implemented persistent key-value storage that reduced data retrieval latency by 40%, allowing for optimized in-bot economy management and enabling seamless mini-game experiences
- Processed over 5,000 monthly user interactions, maintaining stability under high concurrency
- Developed an analytics pipeline to track engagement trends and adjust bot behavior for increased user engagement

Modeling the Future Challenge | Python, MATLAB

Aug. 2022 – May 2024

- Employed a Random Forest model along with Sensitivity Analysis to decipher the top factors behind obesity, cleaning and analyzing mutiple datasets
- Developed transition matrices as part of a Markov chain to model obesity trends over the next 50 years
- Formulated actionable model-based recommendations to mitigate the effects of obesity by 10% over 50 years
- Reached Finalist stage: *top 15 out of 152*

Mathworks Math Modeling Challenge | Python, MATLAB

Feb. 2023 – Mar. 2024

- Created an agent-based model to simulate how the housing market will change 50 years in the future
- Utilized Fourier transform and linear regression to forecast trends in homelessness
- Integrated a Random Forest model to put forth recommendations and decrease homelessness by 16%
- Awarded Honorable Mention in Technical Computing: *top 5 out of 655*

AWARDS & HONORS

Dean's List: Fall 2024 *Top 20%*

2024 – Present

Chancellor's Scholar: Campus Honors Program: *150 students selected per cohort*

2024 – Present

AIME Qualifier 2x: American Invitational Mathematics Examination, Math Olympiad: *Top 5000 in US*

2023-2024

NAC Qualifier: National Astronomy Competition, Astronomy Olympiad: *Top 100 in US*

2023

ISSDC Runner Up: International Space Settlement Design Challenge: *15+ countries*

2022

TECHNICAL SKILLS

Languages: C/C++, Java, Python, SQL, JavaScript, HTML/CSS

Frameworks and Libraries: React, Node.js, Flask, Pandas, Scikit-learn, NumPy, MatPlotLib, TensorFlow, bs4

Developer Tools: Git, Docker, VS Code, Visual Studio, PyCharm, Anaconda, Unix/Linux, Jupyter Notebook