Aryan Gupta

aryang9@illinois.edu • (224)-875-5045 • https://github.com/aryan-cs • https://www.linkedin.com/in/aryan-g/

EDUCATION

University of Illinois Urbana-Champaign Urbana, IL
Computer Engineering, Big Data Analytics. May 2027
Fundamental Mathematics, Discrete Structures, Linear Algebra, Statistics & Probability, Combinatorics

James B. Conant High School Hoffman Estates, IL
Hack Club, National Honor Society, Business Professionals of America 2024

EXPERIENCE

University of Chicago Chicago, IL
Research Assistant Jun 2023 – Sep 2024

- Co-authored and presented two peer-reviewed research papers at ACM CHI focusing on integrative haptics and wireless power transmission
- Streamlined data collection processes, leading to a 75% reduction in time through automation and efficient protocols
- Automated data collection through the use of IRB-adhering mechanized study protocols, allowing for statistically significant findings with errors of less than 5%

LEADERSHIP

Run for Water Schaumburg, IL
Co-founder, Lead Web Developer, & Graphic Designer Jun 2022 – Present

- Led a community initiative raising $18,800, impacting over 2,700 individuals across multiple countries
- Managed full-stack development and deployed cloud-based payment systems, driving 85% of total fundraising efforts

PROJECTS

Markov Chain Monte Carlo Sampler Aug 2024
- Developed an MCMC visualization tool using the Metropolis-Hastings Algorithm, simulating complex sampling methods with the potential for extrapolation to real-world market dynamics and statistical arbitrage strategies

OSINT Sentiment & Context Analyzer for Investments Oct 2023
- Developed a machine learning-driven sentiment analysis model for financial markets, achieving a 78% return on paper trades by applying NLP techniques on public financial forums for alpha generation

Minimax Algorithm for Chess Jul 2022
- Created a perfect chess bot using an optimized Minimax algorithm and Alpha-Beta pruning, resulting in 12% lower latency speeds and a 100% win rate

Entropy-based Sudoku Solver Jul 2022
- Improved Sudoku solving algorithms with a novel entropy-based waveform collapse approach, decreasing computation time by 40%

PUBLICATIONS

Haptic Permeability: Adding Holes to Tactile Devices Improves Dexterity Jun 2022 – Feb 2023
- Shan-Yuan Teng, Aryan Gupta, and Pedro Lopes. 2024. Haptic Permeability: Adding Holes to Tactile Devices Improves Dexterity. In Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems (CHI '24). Association for Computing Machinery, New York, NY, USA, Article 417, 1–12. https://doi.org/10.1145/3613904.3642156

SKILLS

Technical: Python (NumPy, Pandas), C++, SQL, Machine Learning (TensorFlow), JavaScript, React, AWS Cloud
Tools: Git, Linux, Financial Modeling, Backtesting, Data Quality Improvement