

# Viresch Mittal

[vmittal@uchicago.edu](mailto:vmittal@uchicago.edu) | [vmittal27.github.io](https://vmittal27.github.io) | [github.com/vmittal27](https://github.com/vmittal27)

## EDUCATION

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### The University of Chicago

Chicago, IL

*BS in Computer Science and Economics*

*September 2023 – June 2027 (Expected)*

- **GPA:** 3.98/4.00
- **Awards:** Robert Maynard Hutchins Scholar (top 10%), Dean's List (2x), National Merit Scholar; ACT: 36/36
- **Relevant Courses:** Distributed Systems, Operating Systems, Database Systems, Computer Architecture, Machine Learning, Adversarial ML (PhD), Scientific Visualization, Algorithms, Discrete Math, Linear Algebra, Probability, Statistics (PhD), Economic Analysis, AI and Economic Growth
- **Activities:** Algo Group (Vice President), Maroon Capital (Board), IM Sports, Financial Markets Program

## EXPERIENCE

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### IMC Trading

Chicago, IL

*Incoming Software Engineer Intern*

*June 2026 – Present*

- Summer 2026

### UChicago Trading Competition

Chicago, IL

*Software Developer*

*January 2026 – Present*

- Developing core, high-performance infrastructure capable of handling >16k messages/sec as part of the Dev team for one of the nation's largest and most competitive trading competitions with 150 participants
- Implemented support for multi-exchange trading, enabling new cross-exchange arbitrage and venue strategies
- Built central message router, forwarding client gRPC messages to the appropriate Kafka topic with <1% overhead

### UChicago SAND Lab

Chicago, IL

*Undergraduate Researcher*

*January 2025 – Present*

- Researching adversarial ML under professors Ben Zhao and Heather Zheng, focusing on AI-generated music
- Coauthor, *Understanding the Prevalence, Detectability, and Economic Impact of AI-generated Music*, in submission; conducted web-scraping and analytics on millions of records using Polars and DuckDB to measure music platforms
- Built > 99% accurate AI music detector using audio fingerprinting in Rust with Python bindings for training
- Released detector as web extension with WASM to decrease inference from 4s to 50ms, improving user experience

### Icosa Computing

New York, NY

*Software Engineer Intern*

*June 2024 – December 2024*

- Deployed API services on AWS EC2 for new LLM reasoning engine, supporting a \$100k customer contract signing
- Designed backend infrastructure to utilize a job-based API schema to enable asynchronous customer workflows
- Used profiling to diagnose and fix bottlenecks in the reasoning engine, reducing runtime by 2.6x via thread pooling
- Implemented a reusable cache for model benchmarking, eliminating redundant model calls and cutting cost by 50%

### UChicago Institute of Politics

Chicago, IL

*Software Developer*

*January 2024 – May 2024*

- Developed a web crawler for the Anti-Human Trafficking Intelligence Initiative to convert targeted web pages into structured records using regex, BeautifulSoup, and Selenium, saving hundreds of hours of manual work
- Pipelined data into a MySQL data store, storing hundreds of numbers and addresses for analysis in investigations

## SKILLS

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**Programming Languages:** Python, Java, C, Rust, Golang, JavaScript, HTML/CSS, SQL, Bash

**Technologies:** Git, SVN, AWS, Docker, Kafka, MongoDB, Postgres, Neo4j, FastAPI, Flask, React, PyTorch, Polars

**Languages:** English, Hindi, Spanish