

William Guo

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EDUCATION

The University of Chicago

B.S. Computer Science & B.S. Math

GPA: 4.0/4.0

- **Relevant Coursework:** Systems Programming, Data Structures & Algorithms, Data Science, Linear Algebra, Mathematical Probability, Honors Calculus
- **Awards:** AIME Qualifier; National Merit Scholar; ACSL 1st Place State

EXPERIENCE

Chicago Human+AI Lab

Sep 2025 – Present

Chicago, IL

Undergraduate Researcher

- Developing hypothesis generation methods achieving 15% quality improvement on scientific reasoning benchmarks
- Designed a scalable Python ETL pipeline backed by PostgreSQL to process 5K+ model-generated hypotheses
- Cut evaluation runtime 8.2x by standardizing PyTorch experiments and tracking runs with Weights and Biases

MIT Lincoln Laboratory

May 2024 – Jan 2026

Lexington, MA

Machine Learning Intern

- Co-authored IEEE ICDM paper evaluating LLM watermarking detection across 3 adversarial attack families
- Implemented watermark preprocessing and detectability scoring, including tokenization and feature extraction
- Automated HuggingFace inference and scoring to run 120K generations, cutting turnaround from 2 days to 6 hours

XLab

Jan 2026 – Present

Chicago, IL

AI Risk Fellow

- Researched dual-use disclosure risks; distilled findings into 6 structural conditions shaping strategic surprise
- Architected an automated LLM evaluation framework with multi-run significance tests across 500+ test cases

Quasi AI

Sep 2025 – Present

Chicago, IL

Software Engineering Intern

- Built physics-informed neural networks in PyTorch to solve complex PDEs for fluid flow and quantum dynamics
- Implemented domain decomposition in PyTorch DDP, achieving 2.3x speedup on 4 GPUs and 18% lower residual

Northwestern University

Sep 2023 – Jun 2025

Evanston, IL

Research Intern

- Built web scraping and ingestion tools with BeautifulSoup and Selenium for 500K+ records across 600 schools
- Applied scikit-learn regression and KMeans clustering to quantify a 12% performance gap for English learners

PROJECTS

Kalshi Prediction Market Strategy | *Python, Kalshi API, pandas*

Jan. 2025 – Present

- Built long/short strategy on Kalshi, buying market-implied favorites while shorting non-favorite outcomes
- Integrated the Kalshi API to automate 50+ market portfolio management for bookkeeping and rebalancing
- Backtested across SPY/SPX and weather prediction markets, achieving 1.4 Sharpe and 18% annualized return

Text Attack Platform | *PyTorch, FastAPI, HuggingFace Transformers, Redis, NLP*

June 2024 – Present

- Architected adversarial NLP platform spanning 8 attack vectors across 15+ models; presented at IEEE ICDM
- Cut response latency 4.7x to under 200ms by accelerating real time inference with Redis caching and batched PyTorch execution

Braille Board | *Arduino, CAD*

August 2022 – May 2025

- Engineered an Arduino-powered Braille learning device with real-time tactile/audio feedback
- Reached 12 schools and 180 blind students through partnerships with the National Federation of the Blind
- Raised \$30,000 in funding; selected Top 50/370 in Taco Bell Ambition Accelerator

SKILLS

Programming Languages: Python, C++, Java, SQL, JavaScript, R, C#, MATLAB, Go

Tools & Frameworks: PostgreSQL, MongoDB, Docker, Git, Linux, Microsoft Azure, AWS, GCP, PyTorch,

TensorFlow, scikit-learn, pandas, NumPy, Flask, React.js, Next.js, Node.js, HuggingFace, Jupyter Notebook, VS Code

Other: Software Engineering, Data Engineering, Full Stack, Data Structures, Cloud Architecture, SRE, laC tooling, Databases, REST APIs, Backend, Frontend, Cloud Computing, Machine Learning, NLP, LLMs, Embedded Systems