William Hao

Austin, TX • (940) 304-7458 • william.hao.55@gmail.com • willhao.com • GitHub • LinkedIn

EDUCATION

The University of Texas at Austin

May 2027

B.S. Computer Science & B.S. Mathematics – GPA: 4.00/4.00

Relevant Coursework: Computer Architecture, Data Structures, Discrete Math, Stochastic Processes, Linear Algebra, Probability

AWARDS

HackMIT 2025 – 1st Place (Mentra Sponsor Track)

USA Computing Olympiad (USACO) – Gold Division (Java)

PROJECTS

Marvis (HackMIT 2025) • GitHub

Sep 2025

- Shipped and demoed an AR "handyman" assistant in <24h; won 1st Place (Mentra Sponsor Track) among 300+ teams.
- Engineered a stateful voice intent parser on MentraOS, enabling hands-free UI navigation with <100ms latency.
- Architected a multi-API AI backend (Cerebras, Anthropic) to generate AR instructions from barcode scans in <300ms.
- Developed a real-time ingestion pipeline to process live camera inputs and persist session data to AWS S3.

Tech: TypeScript, Node.js/Bun, MentraOS, Python, Docker | AI: Anthropic Claude, Cerebras | Cloud: AWS S3

willhao.com • Live • GitHub

Jun 2025 – Present

- Achieved 100/100 PageSpeed via multi-tier caching (OAuth, 30s API, 1-year assets), cutting external API calls by ~40%.
- Built widgets integrating Spotify OAuth and Chess.com APIs with 5s timeout guards to protect UX from upstream failures.
- Deployed and managed a full-stack app on a self-hosted Ubuntu droplet with Nginx reverse proxy and PM2 process manager.

Tech: TypeScript, Next.js, React, CSS Modules | APIs: Spotify OAuth, Chess.com | Infra: Ubuntu, Nginx, PM2

EXPERIENCE

Texas Undergraduate Computational Finance (UCF) – Analyst • GitHub

Jan 2025 - Present

Selective student-run organization (7% acceptance) focused on quantitative finance and algorithmic trading.

- Researched Kelly vs. Markowitz portfolio sizing on S&P sector ETFs using 7-year rolling windows with transaction costs; extended the model to prediction markets (Kalshi) by integrating weather API data for climate futures contracts. Pitch deck
- Built and deployed a full-stack trading tracker with REST API and PnL visualization, serving 50+ active members. Live
- Authored weekly market reports to 200+ members and alumni, synthesizing macro and financial data into actionable trades.

Tech: Python (Flask, pandas, NumPy), Jupyter/Colab, PostgreSQL, Vercel

UT Math Directed Reading Program (DRP) - Researcher • Presentation

Jan 2025 - Apr 2025

- Researched dynamical systems, applying ergodic and measure theory to model chaotic behavior under PhD mentorship.
- Synthesized and presented findings in a formal 18-page talk on Benford's Law to 30+ faculty at end-of-year symposium.

SKILLS

Programming Languages: Java, Python, C++, TypeScript, JavaScript, SQL

Frameworks & Libraries: Next.js, Node.js, React, pandas, NumPy, REST APIs, GraphQL

Developer Tools: Git, Linux, Docker, Nginx, PM2

Databases & Cloud: PostgreSQL, MongoDB, SQLite, AWS (EC2, S3) **Interests:** Competitive chess (USCF 1815; Chess.com 2200), Powerlifting