ETHAN GUO

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EDUCATION

Northwestern University Sep 2022 - June 2026
M.S. Computer Science, B.S. Industrial Engineering, Evanston, IL GPA: 3.74 / 4.0

Honors: Dean's List, Linear Algebra & Optimization Tutor, SIGP Award Recipient

Courses: Data Structures/Algorithms, Data Science, Linear Algebra, Machine Learning, Stochastic Models, Scalable Software Architecture, Advanced Mathematics, Agile/SDLC Software Development, Optimization

SKILLS

Languages	Python, C/C++, Javascript/Typescript, Java, SQL, MATLAB, x86 Assembly
Tools/Frameworks	Git/Jira, Next.js, Django, AWS EC2/Lambda, Firebase, Oracle DB, Docker, Tableau, Power BI

EXPERIENCE

Evergy, *Quantitative Development Intern* | Python, Java, Power Stack | Kansas City, MO Jun 2024 - Present

- Engineered predictive model for energy curtailment, integrating exponential dispersion models with weather data, energy production, and price volatility metrics to minimize financial losses
- Launched unit-tested full-stack Oracle interface automating management of 1.5 million SOA records across a 7-table network, optimizing delegation and improving fetch speeds by 78%.

Paramount Global, *Client Developer* | AWS, Firebase, Python, TSX | [Demo] | Chicago, IL Apr 2024 - Jun 2024

- Developed end-to-end real time review extraction pipeline leveraging AWS Lambda, LXML, and axios, conducting Bayesian Sentiment Analysis with Firebase Cloud Infrastructure
- Wireframed and implemented Radix styled Vite app with Figma, delivering front-end visualizations of sentiment data for Paramount Consultants

Cybership.io, *Software Development Intern* | Python, C++, Power BI | [Website] | Chicago, IL Sep 2023 - Jan 2024

- Improved Dynamic Route Optimization processing speed for warehouse network by 11%, presenting results in Power BI Case Study
- Reduced average fulfillment cost by 3% by optimizing 3D Bin Packing Algorithm and automating suggestions for client product packaging dimensions

PROJECTS

Supply Chain Resilience Analysis | R, MatLab, Tableau, Python | [GitHub] [Thesis] Mar 2024 - May 2024

- Architected expert-reviewed supply chain model that simulates stress by procedurally generated climatic stressors through Gaussian diffusion, conducting regression analysis on performance and resilience metrics with R and Tableau

Route Optimizer | Python, Pandas, Optimization | [GitHub] Feb 2024 - Apr 2024

- Calculated optimal routes by incorporating parallelized subtour elimination and dual bound pruning with Gurobi and PuLP optimization APIs
- Formulated network mixed integer linear programming model to optimize order deliveries to minimize delivery time

React-swipe-to-show NPM Package | Typescript, Node.js | [GitHub] [NPM] Jan 2024 - Mar 2024

- Coded and published web component integrating gesture detection with full customization with 1300+ downloads.

NU SETI Signal Competition, *Runner-up* | C, Assembly, Optimization Jan 2024 - Feb 2024

- Vastly improved signal parsing algorithm processing speed by a factor of 106x leveraging multithreading and AVX512 parallelization, processing 12 million samples in 9ms with Northwestern's Quest High Performance Computer

Crowdsurf.nu, *Lead Dev* | Next.js, Django, EC2, Docker, Python, TSX | [GitHub] [Website] Aug 2023 - Feb 2024

- Built REST API back-end incorporating Selenium with Django, serving busyness data from PostgreSQL database. Hosted with Docker and AWS Cloudfront on Ubuntu AWS EC2 instance employing Gunicorn process control
- Served 350+ daily users with interactive data displays for campus hotspots with Radix styled Next.js app