

Andy Ye

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EDUCATION

Georgia Institute of Technology

Bachelor of Science in Computer Science

Clubs and Activities: RoboJackets, Web Dev @ GT, dependently-typed

Atlanta, Georgia

Expected May 2026

EXPERIENCE

CodeBytes

Organizer, Full-Stack Developer

Naperville, Illinois

Aug 2023 – May 2024

- Organized multiple inter-school programming competitions across the Chicago suburb area, attracting 60+ in-person participants from 5+ schools.
- Contributed to the design of 30+ algorithmic programming problems, along with meticulously-crafted test cases and constraints.
- Designed and created a comprehensive website, utilizing modern web technologies and techniques to streamline registration, problem submission, automated judging, and real-time contest rankings.

High Oaks Robotics

Team Member

Naperville, Illinois

Sept 2022 – May 2024

- Designed and assembled several complex, competition-ready robots meshing various components together such as multi-stage lifts, advanced intake mechanisms, precision claws, and integrated visual/encoder-based odometry systems.
- Leveraged 3D printing (onShape), CNC, and Laser Cutters to manufacture intricate custom parts, ensuring seamless compatibility with existing mechanisms.
- Developed effective control algorithms for holonomic autonomous robot navigation via guided vector fields while minimizing path deviations through linearized quadratic regulators using the OjAlgo and JTransform libraries in Java.

Gnomon Learning

Tutor, Full-Stack Developer

Naperville, Illinois

July 2023 – May 2024

- Led 20+ team of tutors providing free educational support both online through Google Meets and in-person for K-12 students on AP courses, standardized test preparation, and core academic subjects.
- Managed and scaled tutoring operation by partnering with the Naperville and Aurora Public Library.

PROJECTS

CodeBytes Website | codebytes.codes | github.com/idke64/codebytes

2023 – 2024

- Architected a responsive, full-stack web application serving as both an event platform and a competition portal utilizing NextJS, React, and TailwindCSS, including integrated authentication and data management provided with Firebase.
- Implemented a robust submission and judging system supported by a REST API, featuring immediate feedback, access to past submission details, and a built-in code editor that supports 10 languages.
- Deployed highly-available, self-hosted, Dockerized backend judging server via CloudFlare Tunnels, incorporating worker processes to handle multiple requests concurrently.
- Created a flexible Markdown-based content structure with MDX to dynamically display blog posts and general information.

Gnomon Learning Website | gnomonlearning.org

2023 – 2024

- Engineered an innovative learning platform using NextJS, React, and TailwindCSS that provides information about tutoring services in an aesthetically pleasing user interface.
- Leveraged Firebase database and authentication functions, allowing for the creation and sharing of user-generated quizzes.

Gameboy Emulator in Rust | github.com/idke64/gameboy-emulator-rust

2024

- Implemented complete LR35902 instruction set with around 511 opcodes and cycle-accurate emulation of the Gameboy's Pixel-Processing-Unit (PPU) and CPU.
- Enabled support for loading and running Gameboy Read-Only-Memory (ROM) files.

Car Simulation powered by Neural Networks and Genetic Algorithms | github.com/idke64/car-evolution

2023

- Developed autonomous car simulation using Python and Pygame, utilizing neural networks for decision-making and a genetic algorithm for evolutionary training.

Additional Skills

Technical Skills: HTML/CSS, JavaScript, Python, C/C++, Java, Rust, ReScript, Firebase, TypeScript, React, NextJS, ExpressJS, TailwindCSS, Markdown, CAD, REST APIs, Git, Svelte, Sveltekit, Cloudflare, Mathematica, LaTeX

Languages: Fluent in Cantonese, English; Conversational Proficiency in Mandarin