

Ethan Loo

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EDUCATION

Georgia Institute of Technology

BS Computer Science - CGPA: 3.84

Atlanta, GA

May 2022 - May 2026 (anticipated)

EXPERIENCE

Keysight Technologies | Eggplant

QA Engineer Intern

Penang, MY

May 2024 - Aug. 2024

- Authored and debugged automated model-based and script-based test scripts in Eggplant Functional. Discovered 4 breaking bugs and led development of automated MBT tests for the respective test cases. Wrote approximately 300 lines of code in SenseTalk.
- Spearheaded the development and implementation of front-end, back-end, and other test procedures (**Cypress tests**, API/BDD tests, MBT tests) for new systems and application features under development.
- Collaborated in defining the minimum viable product for Eggplant DAI version 7.5.0-0.

PROJECTS

Technique

Frontend Developer

- Built and styled five React/TypeScript pages (News, Life, Opinions, Entertainment, Sports) with **React Router** for routing and **Axios** for paginated API calls.
- Developed a WYSIWYG editorial dashboard using **QuillJS** for rich-text editing and **react-dropzone** for drag-and-drop media uploads, with file validation and real-time upload feedback.
- Implemented responsive layouts using **CSS Grid** and **Flexbox**, ensuring smooth mobile experience and cross-browser consistency (Chrome, Safari, Firefox).
- Collaborated in 1-week Agile sprints on a 7-person team; managed Git branches, led code reviews, and enforced ESLint standards.

GTEsports: Gamefest (gamefest.gatechesports.com)

Fullstack Developer

- Led frontend development for Gamefest, an esports tournament platform with **246+ competitors across Atlanta**, using **Vite** for fast builds and **Tailwind CSS** for responsive UI styling. Deployed frontend via Netlify and backend via Render, with MongoDB as the primary database.
- Built a weighted raffle system using RESTful APIs, dynamically selecting and displaying 1st-3rd place winners on a public leaderboard.
- Integrated with Cloudflare to monitor analytics; served **2.13k unique visitors** and 95.3k total requests over 30 days, with 71.43% cache hit rate.
- Worked in 1-week Agile sprints within a 5-person team; enforced Git workflow, ESLint, and Prettier for code consistency.

Vertically Integrated Project: Video Game for Power Grids

Backend/Systems Developer

- Engineered and maintained an Azure-hosted backend with secure **Gurobi API endpoints**, efficient concurrency control, and thread-safe configuration, ensuring reliable high-performance optimization simulations.
- Designed a robust **Gurobi optimization model** to simulate and optimize power grid flow; implemented cache fallback and lookahead mechanisms to ensure real-time continuity despite network issues (e.g., packet loss, latency).
- Contributed to UI/UX design using **Aseprite** and **MagicaVoxel**, creating pixel and 3D assets to enhance gameplay visuals and user experience.

AI ATL 2024: AgentArena

Frontend Developer

- Developed a web-based LLM simulation platform using React for the frontend and Flask for the backend, enabling users to simulate and analyze agent interactions in multi-agent scenarios (Prisoners' Dilemma). Utilized Fetch API and React Hooks to dynamically fetch and update game state data in real-time.
- Leveraged Plotly.js for interactive data visualization, displaying agent performance metrics such as **niceness**, **forgiveness**, **retaliatory**, **troublemaking**, and **emulative behavior** over multiple simulation rounds.
- Analyzed behavioural patterns/tendencies of different LLM models (Claude, GPT-4, Gemini) when pitted against different agents/strategies (random, tit-for-tat, etc.). [Project Report](#)

EXTRACURRICULARS

Achievements:

- Achieved 1st Degree Black Belt in Taekwondo ITF.
- Achieved PADI Open Water and Advanced Open Water Diver License.
- Completed BWC (Basic Wall Course) top rope sport climbing certification.