

# Raymond Bian

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## EDUCATION

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### Georgia Institute of Technology

Atlanta, Georgia

*Bachelor of Science in Computer Science, Minor in Mathematics. 4.0/4.0 GPA.*

*Expected December 2025*

## EXPERIENCE

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### Undergraduate Research Assistant

Aug. 2024 - Present

*Georgia Tech Space Systems Design Laboratory*

*Atlanta, Georgia*

- Developing a secure and robust system to store and analyze telemetry for the upcoming GDPM cube satellite.
- Creating a service to quickly insert data from NASA's telescience resource kit into a local time series database.
- Utilizing technologies such as Grafana to allow users to display and visualize telemetry data in a web browser.

### Club Co-President

May 2024 - Present

*Georgia Tech Competitive Programming Club*

*Dalian, China*

- Leading weekly meetings/practices, covering topics from advanced data structures to elegant solving techniques.
- Participating in twice-weekly Codeforces competitions (rated 1900) to practice for ICPC competitions.

### Volunteer Project Lead

May 2022 - May. 2024

*Dalian Mother's English Consulting Co*

*Dalian, China*

- Developed a web app to store volunteer hours and training information for 50+ users in an relational database.
- Spearheaded weekly meetings to coordinate design, layout, and functionality of 20+ website pages.

## PROJECTS

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### iUtils Kernel Driver | C, WDF, WinAPI, C#, WinUI 3

May 2024 - July 2024

- Created a Windows Kernel Driver utilizing USB sniffing to identify and enable hidden iDevice USB features.
- Utilized the Windows Driver Framework to create a virtual USB bus, allowing other drivers to extend device functionality out of the box.
- Developed a lightweight WinUI 3 C# app to allow users to configure enabled features and view device info.

### Graphscii Graph Embedder | NetworkX, Python, React.js

November 2023 - January 2024

- Implemented an orthogonal graph drawing framework with the Topology-Shape-Metrics approach, allowing users to display graphs in the terminal with ASCII and Unicode characters.
- Utilized network flow algorithms and MILP solvers to minimize edge crossings, bends, and total layout area.
- Developed a front-end and API for online demo use and documentation.

### Daedalus Esoteric Programming Lang | Rust, React.js, WebGL

July 2024 - August 2024

- Built a stack-machine based language involving image manipulation, parsing, interpreting, and execution.
- Utilized WebGL shaders, React.js and Web Assembly to create an interactive and performant web IDE to allow users to write, debug, execute, and run Daedalus code.

### League of Legends Memory Utility | C++, ImGUI, ReClass, Ghidra

June 2022 - August 2022

- Utilized Ghidra to analyze dumped game binaries, and ReClass to scan memory realtime to reverse engineer and locate offsets of camera matrices, ability cooldowns, and object manager trees in application memory.
- Developed user-friendly interactive menu and efficient overlay with ImGUI.

### USACO Checklist App | HTML, CSS, Python, Postman, SQL, Jekyll

May 2022 - June 2022

- Developed a REST API and utilized a relational database to track progress on 500+ USACO problems.
- Reverse engineered USACO server requests with Postman, wrote async web scraper to sync problem progress.
- Built JSON web token authentication and user login system to enable sharing and device sync.

## TECHNICAL SKILLS

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**Programming Languages:** Javascript, C++, C, Python, Java, Rust, SQL

**Technologies:** React.js, Flask, FastAPI, PyTorch, WDF, Bevy, Postman, GH Actions, NetworkX, ImGUI, LaTeX

**Languages:** English (fluent), Chinese (conversational)