Raymond Bian

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Education

Georgia Institute of Technology   Expected December 2025
Bachelor of Science in Computer Science (GPA: 4.00 / 4.00)   *Atlanta, Georgia*
- **Relevant Coursework:** Data Structures and Algorithms (Java), Honors Algorithms, Combinatorial Analysis, Probability Theory, Computer Organization (LC3 ASM).

Harvard University Extension School   August 2022 - May 2023
Online Math Dual Enrollment (GPA: 3.84 / 4.00)

University of Illinois Urbana Champaign   August 2021 - May 2022
Online NetMath Program (GPA: 4.00 / 4.00)

Experience

Dalian Mother's English Consulting Co.   May 2022 - Dec 2023
Software Engineer/Project Manager   *Dalian, China*
- Developed a web app to store volunteer hours and training information for 50+ users in an accessible database.
- Spearheaded weekly meetings; coordinating design, layout, and functionality of 20+ pages.
- Utilized Python, FastAPI, and MySQL to implement a REST API for the back-end; React.js for a responsive and user-friendly front-end.

Epoch Technologies Dalian, Co. Ltd.   June 2021 - September 2021
Business English Teacher   *Dalian China*
- Taught business English lessons twice weekly to 25 workforce professionals.
- Created lesson plans, interactive activities, and engaging assignments to foster use of English.
- Developed communication skills in a professional workforce environment across language barriers.

Projects

Graphscii Graph Embedder | *Networkx, Python, React.js*
- Implemented an orthogonal graph drawing framework with the Topology-Shape-Metrics approach, allowing users to display graphs in the terminal.
- 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.

USACO Checklist App | *HTML, CSS, Python, Postman, SQL, Jekyll*
- Developed web application utilizing a REST API and an ORM to store and track progress on 500+ USACO problems.
- Reverse engineered USACO server requests with Postman, wrote web scraper to sync problem progress.
- Built JSON web token authentication system and user accounts to enable list sharing and sync between devices.

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

Dance Choreography AI | *PyTorch, OpenCV, Flask, React*
- Developed a Multi Object Tracking-based app to automate choreography analysis using React and Flask.
- Created multi-object detection and tracking data pipelines using Pytorch to extract dance formations.
- Converted object-tracking data to bird's eye view using OpenCV and Geometric Image Transformation.

Technical Skills

Languages: Javascript, C++, Python, Java, SQL
Competitive Programming: Rated 1900 on Codeforces (Top 6%)
Technologies: React.js, Node.js, Flask, FastAPI, PyTorch, jQuery, Bootstrap, Postman, GH Actions, NetworkX, ImGUI, LaTeX
Concepts: Data Structures, Authentication, API, Algorithms, Probability
Languages: English (fluent), Chinese (conversational)