

Sana Saab

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EDUCATION

Brown University, Sc.B. Computer Science, 4.0/4.0 GPA

Providence, RI | **Expected Graduation May 2027**

Relevant Courses: Foundations of AI, Introduction to Software Engineering, Statistical Inference, Program Design with Data Structures and Algorithms, Systems Fundamentals, Probabilistic Methods in Computer Science

SKILLS & INTERESTS

Programming Languages: Python, Java, Racket, ReasonML, TypeScript, JavaScript, CSS, C, C++, Assembly

Technologies and Frameworks: Linux Bash/Shell, Firebase, React Native, React, SQL, Git, Node.js, AI/ML

TECHNICAL EXPERIENCE

Amazon Web Services (AWS), Software Engineering Intern

Boston, MA | May 2025 – August 2025

- Developed a native Oracle redo log parser connector for Debezium CDC as an alternative to LogMiner
- Built core features including transaction grouping, before/after column image reconstruction, system noise filtering, schema-aware type interpretation, transaction ID parsing, and SCN parsing to support AWS's Data Migration Services
- Delivered a system with performance gains over LogMiner by reducing SQL overhead and session management errors

Brown Daily Herald Mobile App, Backend Developer

Providence, RI | January 2024 – January 2025

- Collaborated with a team of 20 software engineers and designers to develop [a mobile application](#) supporting 1000+ active users using React Native, Cloud Functions for Firebase, and Expo Push Notifications to deliver real-time news updates
- Implemented, tested, and deployed 7+ Firebase Functions in TypeScript to handle backend operations such as creating users and updating user settings. Integrated security features like API throttling to safely support a growing userbase

Introduction to Software Engineering, Head Teaching Assistant

Providence, RI | April 2025 – Present

- Lead staff of 10 TAs, conducting hiring, interviews, onboarding, training, and weekly coordination meetings
- Collaborated with professors to redesign the course structure and materials to reflect real-world software engineering by creating new content on AI-assisted coding, using Zod with refinements, and integrating with large, pre-existing codebases
- Supported 100+ students through coding assignments, labs, and projects via in-person office hours and an online board

Socially Responsible Computing Handbook, Infrastructure & Tool Developer

Providence, RI | December 2024 – May 2025

- Maintained a prototype website hosting primers on fairness, transparency, reliability, privacy, and data protection
- Conduct user surveys and focus groups with key stakeholders to gather feedback and inform [handbook](#) design improvements

TECHNICAL PROJECTS

Vocablo, React, JavaScript, Java

Providence, RI | Fall 2024

- Collaborated with a team of three to create a web app for language learners using React, Firebase, and Clerk
- Designed and developed the Clusters, Home, and MyDictionary pages with custom CSS and animations to improve the UI
- Implemented AI-powered automatic clustering and built a searchable dictionary backed by a trie with real-time data retrieval

Go Agent, Python

Providence, RI | Fall 2024

- Developed advanced AI agents for the board game Go using Monte Carlo Tree Search (MCTS), Minimax, Alpha-Beta pruning, and neural network-based techniques, and compared their performances to choose an optimal base agent
- Implemented a transposition table system to cache and reuse previously evaluated game states, improving search depth
- Optimized an advanced agent by integrating iterative deepening search (IDS) with transposition tables, achieving a consistent +10.0 score improvement over baseline IDS and maintaining a 100% win-rate against it

COMMUNITY INVOLVEMENT

Brown Dabke Club, Founder, President

Providence, RI | September 2024 – Present

- Founded Brown Dabke Club, tripling practice attendance and growing membership to 50+ students within a few weeks
- Recruited and manage a 7-person executive board, overseeing weekly meetings, finances, and member duties
- Organized and led over 5 workshops, including a 500+ attendee event, boosting sign-ups and community engagement

IgniteCS, Tutor

Providence, RI | August 2024 – December 2024

- Design interactive coding curriculum for young students covering topics ranging from variables and conditionals to classes
- Teach computer science lessons from the curriculum to elementary students at Central Falls for three hours weekly

St. Jude Children's Research Hospital, Volunteer Coordinator

Providence, RI | January 2019 – August 2023

- Assist in fundraising at various events by recruiting and organizing volunteers and preparing video and print promotions
- Completed over 100 hours of service and helped raise over \$1M for St. Jude Children's Hospital