Jacob Aberasturi

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Boston, MA | Availability: June 2025

EDUCATION

Northeastern University   Sept. 2021 − May 2025
Bachelor of Science in Computer Science **GPA: 3.5/4.0**   *Boston, MA*

Relevant Courses: Web Development, Mobile Development, Object-Oriented Design, Software Engineering, Algorithms, Networks and Distributed Systems, Computer Systems

EXPERIENCE

Infrastructure SQA Engineer Co-op   July 2024 − Dec. 2024
Cisco/Acacia Communications   *Maynard, MA*
- Developed automated tests suites in C# for Acacia's next-generation Pluggable Coherent Optical Module products
- Optimized boot processes over an active network, resulting in reduced downtime and improved system performance
- Configured and validated optical test environments, including fiber connectivity setup and test instrument calibration

Software Engineer Co-op   July 2023 − Dec. 2023
Mercury Systems   *Andover, MA*
- Developed Python automation scripts for FPGAs to streamline codebase migration from ClearCase to BitBucket, reducing manual migration time significantly
- Improved package compilation time from 40 to 6 minutes, saving approximately 100 engineering hours monthly
- Managed RPM repositories to maintain and optimize software packages, improving package stability and performance by 25%

PROJECTS: GITHUB.COM/JABER1028

Fake Stack Overflow | *TypeScript, React, Express, MongoDB, Socket.io*   Jan. 2025 − Apr. 2025
- Built a comprehensive Q&A platform with authentication, direct messaging, and interactive games using TypeScript and the MERN stack
- Architected a Daily Puzzles feature with automated generation algorithms that create unique logic challenges daily through cron scheduling
- Implemented real-time data synchronization across components using Socket.io for chat systems, game state updates, and leaderboard visualization

Kanbas | *JavaScript, React, Node.js, MongoDB*   Jan. 2024 − May 2024
- Developed a full-stack learning management system inspired by Canvas, featuring course creation, assignment management, and grading
- Architected a Single Page Application (SPA) using React and Redux for state management, enabling seamless user experience
- Built a scalable backend using Node.js and MongoDB, implementing RESTful API endpoints for efficient data operations

Raft Consensus Algorithm | *Python, JSON, Sockets*   Nov 2022 − Dec. 2022
- Implemented distributed consensus using the Raft protocol, achieving strong consistency across replicated nodes despite network failures
- Built a fault-tolerant key-value store supporting concurrent client operations with a focus on data consistency during leader elections
- Engineered network communication layer handling message serialization, log replication, and node failure recovery

TECHNICAL SKILLS

Languages: JavaScript, HTML/CSS, TypeScript, Swift, Python, C#, C++, C, Java
Frameworks: React, Redux, Jest, Bootstrap, Node.js, UIKit, SwiftUI, pytest, JUnit, Processing
Technologies and Tools: MongoDB, Firebase, Netlify, Postman, TCP\IP, Git, P4V, Xlinix, Jira, FPGA