Samuel Habib

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Education

Rutgers University New Brunswick, NJ
Bachelor of Science in Computer Engineering *Aug. 2022 – May 2026*

- **Relevant coursework:** Data Structures and Algorithms, Computer Architecture, Software Engineering, Signals and Systems, Linear Algebra, Logic Design, Network Programming, Operating Systems
- **Clubs and Organizations:** Rutgers Solar Car, Blueprint, All Stars Development School for Youth
- **Awards:** BMS Scholar, YMCA Shark Tank Winner

Academic Projects

Dizzy Design Retail | React, Node.js, Express.js, MongoDB Sept. 2024 – Dec. 2024

- Developed a full stack e-commerce website with a team of 6 using best practices in version control, with feature branching, pull requests, and code reviews.
- Created a products API allowing for the CRUD operations for permitted users, allowing streamlined product management and administrative control.
- Targeted UI/UX design toward a specific demographic of shoppers to align with design intent.
- Implemented Base64 conversion for product image upload and viewing, supporting files up to 15 MB with efficient MongoDB storage and retrieval.
- Added support for PayPal using REST API for secure and efficient checkout authentication.
- Collaborated with teammates to provide support, troubleshoot issues, and document processes, fostering a learning environment to achieve the end result by the deadline.

2048 | Java, Data Structures and Algorithms

- Implemented core game mechanics for a 2048 clone in Java, including swipe, merge, and tile generation algorithms to accurately replicate game logic.
- Simplified directional move logic in a 2048 game by implementing matrix transposition and row-flipping, reducing code redundancy by reusing the ‘swipeLeft()‘ method for all directional moves.

Personal Projects

Love Light | Node.js, Express.js, MongoDB, JavaScript, HTML, CSS

- Utilized a performance-first approach with a custom full-stack implementation, achieving an average Largest Contentful Paint (LCP) of **0.37 seconds** and a maximum LCP of **1 second** (via Lighthouse).
- Delivered a Simple Lovable Complete (SLC) project on a **6-week** timeline, achieving a functional MVP in half the time (3 weeks), allowing users to communicate their emotions with their partner through a traffic light code.
- Integrated Google Authentication using OAuth 2.0 for quick and secure user sign-up and login functionality.
- Deployed the application using a Digital Ocean Droplet with PM2 for process management and Nginx as a reverse proxy for optimized performance.

Swift-todo | Swift, SwiftUI, MVVM

- Developed a straightforward to-do list app in SwiftUI using the MVVM pattern, enabling dynamic task entry and task clearing upon submission.

Contemplations | Node.js, Express.js, MongoDB, JavaScript, HTML, CSS

- Produced a web app for structured idea management, enabling users to categorize and elaborate on thoughts and ideas, improving organization efficiency by providing a dedicated space for brainstorming.

Technical Skills

Languages: Python, JavaScript/TypeScript, Java, HTML, CSS, MongoDB, MATLAB, C/C++, MySQL
Frameworks: React, Node.js, Next.js, Express.js, SwiftUI, Figma
Developer Tools: Git/Github, Docker, Linux, Vercel, Visual Studio Code, Xcode, Vim, Postman