Jonathan Shih

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Experience

Scout Boston, MA

Tech Lead | JavaScript, ReactJS, NodeJS, MongoDB *January 2024 – May 2024*

- Spearheaded end-to-end development of a website, leading a team of 4 engineers, overseeing front and back end development
- Directly coordinated with our client and designers to define project scope, deliver features and exceeded expectations.
- Allowed for website content customization using 10 REST API endpoints between Front end, Back end and MongoDB

Northeastern University Boston, MA

Lead Teaching Assistant for Fundamentals of Computer Science 2 | Java *January 2023 – May 2024*

- Conducted comprehensive Java concept reviews, emphasising best coding practices, practical applications
- Led weekly lab sessions of 40 people, fostering a deeper comprehension of fundamental computer science principles
- Guided students in evaluating solution trade-offs to problems, and to be more independent when debugging in their code

Proof (formerly Notarize) Boston, MA

Full-Stack Software Engineer Co-op | TypeScript, ReactJS, Ruby on Rails, GraphQL *July 2023 – December 2023*

- Collaborating with the UI/UX team to revamp the user interface by implementing new features and refining existing elements, improving overall workflow efficiency by 20% and user satisfaction by 31%
- Implemented targeted optimizations and refined existing tests, leading to increased end-to-end test stability and reliability
- Rendered GraphQL API errors from Ruby back-end to display on ReactJS application, increasing submission rate by 4%

Wayfair Boston, MA

Full-Stack Software Engineer Co-op | Python, Java, PHP, SQL *July 2022 – December 2022*

- Abstracted and optimized re-usability of 30% of code base, boosting developer efficiency by 25% and enhancing code clarity
- Communicated directly with business users to resolve bugs and implement features on SQL intermediary tool and internal employee admin website to ensure functionality
- Created and integrated REST API on change proposal web app, enabling enhanced CRUD operations on SPDB
- Implemented DataDog metric tracking to monitor application performance, leading to a 15% reduction in response time
- Designed and developed an internal database change proposal system for data uniformity and improved change tracking

Projects

Ultimate Tic-Tac-Toe AI | *Python, NumPy* March 2024

- Developed a minimax AI with a heuristic-based board state evaluator for a complex version of Tic-Tac-Toe. Utilized Alpha-Beta pruning for optimization and to reduce overfitting.
- Enhanced AI performance through multiple hill climbing strategies and iterative weight adjustment.

Covey Town Auth | *TypeScript, Java, MobgoDB, Auth0, MarkdownUI* May 2022

- Integrated Auth0 for user authentication and MongoDB for user profiles, enabling seamless user updates and interactions within and outside the web game
- Designed an integrated Markdown UI for creating public and private quick notes that are accessible and editable anytime

MemeDB | *JavaScript, HTML/CSS, Node.js, React, Redux* April 2022

- Constructed a dynamic JavaScript database website using Node.js, React, and Redux, interfacing with the Imgflip API to efficiently retrieve and showcase meme data
- Integrated MongoDB for user interactions including saving, liking, and commenting on memes, coupled with password authentication for personalized interactions like viewing/editing profile and user related interactions

Maze Generation | *Java* May 2021

- Crafted a captivating maze game in Java that generates solvable rectangular mazes via Kruskal's algorithm
- Users can interactively navigate through the maze or opt for automated solutions through breadth-first or depth-first searches, with both visited squares and the shortest path highlighted

Education

Northeastern University May 2024

B.S. in Computer Science and Design

- 3.88/4.0 GPA, Summa Cum Laude, Dean's list all semesters
- Relevant Coursework: Fundamentals of Software Engineering, Discrete Structures, Object-Oriented Design, Algorithms and Data, User Experience and Interaction, Web Development, Database Design, Foundations of AI

Technical Skills

Coding Languages: Java, JavaScript, Typescript, GraphQL, SQL, Python, PHP, Ruby, Swift

Libraries & Frameworks: React, Node.js, Redux, jQuery, Jest, Express, Spring, Ruby on Rails

Tools & Technologies: Git, LaTeX, HTML/CSS, Figma, PostgreSQL, Docker, Kubernetes, Jenkins, Postman, JetBrains IDEs, Adobe creative suite