Aaron Bishop

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SKILLS AND TECHNOLOGIES

JavaScript, TypeScript, React, Redux, Node.js, Express.js, Three.js, Python, Machine Learning, FastAPI, Flask, WebSockets, SQL, PostgreSQL, MongoDB, Cypher, Neo4j, HTML, CSS, Tailwind, Bootstrap, Docker, Git, VSCode, Ubuntu, Postman

PROFESSIONAL EXPERIENCE

Full Stack Software Engineer

Mutual, June 2023 - July 2024

- Spearheaded the design and development of several major company projects, employing React TypeScript components and MVC architecture for efficient frontend state-management, resulting in highly-responsive 2d/3d user interfaces.
- Skillfully designed RESTful API systems, ensuring seamless integration plus efficient real-time data exchange between various microservices, and integrated backend endpoint responses with custom frontend WebSocket configurations.
- Engineered robust CI/CD pipeline solutions, facilitating seamless deployment and scalability of applications across multiple environments, resulting in a 50% reduction in deployment time and improved resource utilization.
- Maintained and executed comprehensive test suites to ensure reliability and performance, minimizing downtime by 25% and reducing bugs in production environments.
- Iteratively tested and improved vector embedding configurations, improving AI-driven responses and overall functionality.
- Built complex graph relationships and optimized queries for data retrieval processes to improve application performance.
- Efficiently investigated large-scale issues and demonstrated agility in refactoring major codebases within a fast-paced startup environment, increasing system efficiency and adaptability to rapidly changing business requirements.

NOTABLE PROJECTS

Stitch   https://getstitch.ai

AI-Powered collaborative graph-based visual learning application

(TypeScript, React/Force-Graph-2d/3d, Redux Toolkit, Vite, FastAPI, Neo4j, Supabase, AWS, OpenAI, Websockets, Tailwind, Bootstrap)

- Collaboratively developed an innovative AI interface system and designed optimal graph traversal and interaction based algorithms.
- Engineered real-time content streaming features using WebSockets, ensuring smooth and synchronous interactions among users.
- Implemented data-driven AI clients with OpenAI/Claude integration in order to provide intelligent suggestions, query memories and conversational context, and produce optimal results by means of dynamic prompt-engineering.
- Designed and optimized user history architecture, leading to a 50% improvement in data retrieval speed and overall storage optimization.
- Achieved high scalability and performance by leveraging CDN design principles in conjunction with AWS services, ensuring the application can handle a growing user base effectively.

ThesaRush   https://thesarush.onrender.com | https://github.com/AaronPBishop/ThesaRush

Unique multiplayer word game with various complex game-play mechanics and engaging skill-based rewards.

(React, Redux, Flask, SQLAlchemy, ES6 JavaScript, HTML5, CSS3)

- Utilized advanced matrix operations, including recursive generation of random starting boards, manipulation of input selection based on player tile selection, and instant splicing of cleared tiles, resulting in a 60% increase in overall gameplay speed and a highly engaging player experience.
- Deployed a 'challenge' feature which enables users to send and receive challenges from other players within an array of leagues, with customizable time limits and difficulty levels, allowing players to compete and compare results.
- Built a highly effective 'hint' generating feature that utilizes an elegant solution to quickly identify valid 8-9 letter words within the player's board, resulting in a significant 75% improvement in algorithmic word-finding speed.
- Designed an advanced I/O tile-generating system that utilizes queue techniques to strategically determine next letters that should be dropped, optimal column placement, and appropriate property inheritance, improving overall efficiency by 80%.

EDUCATION

App Academy - **Software Engineering Immersive: 48 Week Program** - *Graduation Date: March 2023*

3% admission-rate - 90% deferral rate - Graduated top of class with 0 deferrals on weekly assessments

Pair-programmed daily and constructed several full-stack applications using a diverse variety of programming technologies.

Lone Star College System - **Associate of Arts: Business Administration** - *Graduation Date: January 2022*

Graduated Summa Cum Laude (3.9 GPA)

ACCOMPLISHMENTS

- Certified Eagle Scout