William Tucker

[linkedin.com/in/william-tucker](https://www.linkedin.com/in/william-tucker-9b628462/) • <https://github.com/wtucker29> • (615) 881-2686 • [william.tucker29@gmail.com](mailto:william.tucker29@gmail.com)

* Nashville, TN • [https://williamtuckerdev.netlify .app/](https://williamtuckerdev.netlify.app/)

# TECHNICAL SKILLS

**Programming Languages:** JavaScript, Python

**Cloud Deployment and Technologies:** DevOps, Docker, Git, feature branch workflow, AWS (EC2)

**Database Concepts and Technologies:** SQL, MySQL, NoSQL, MongoDB, Entity Relationship Diagrams, Database scaling, Mongoose

**Server-Side Concepts and Technologies:** NodeJS, Express.js, MVC, Stress Testing & Scalability

**Client-Side Concepts and Technologies:** HTML5/CSS3, DOM & DOM API, Event Listeners, ReactJS, AJAX / Fetch, Component-Based Architecture

**Fundamentals of Computer Science:** Data Structures, Algorithms, Object-oriented design, ORM/ODMs

# RELEVANT PROJECTS

## Project Atelier E-commerce Redesign | Front End Engineer | https://github.com/wtucker29/Project-Atelier | JavaScript, React

*This application is a complete front-end redesign of an e-commerce website.*

Mar '24

* Developed a product overview widget utilizing React and CSS consisting of 5 components enabling customers to seamlessly navigate products **without a page refresh**
* Maximized performance by preloading & throttling API requests generating an **FCP of 0.3s** & **Speed Index of 0.9s**
* Implemented **field validation** to eliminate bad API requests for product selection and purchase by **100%**

## Project Atelier API Redesign | Back End Engineer | https://github.com/wtucker29/Q-And-A-Redesign | JavaScript, PostgreSQL

*This application is a complete back-end redesign of the API and database of an e-commerce website*

Mar '24

* **Reduced latency** from **45ms to 6ms** and **increased throughput** from **100 RPS to 10000 RPS** by implementing an Nginx load balancer and caching
* Optimized SQL queries using **indexes and UUIDs** to **improve query response time by 500%**
* Deployed three EC2 micro instances behind an Nginx load balancer to sustain **1000 RPS**, a **900% increase** in throughput

## SkoolHub | Full Stack Engineer | https://github.com/wtucker29/SkoolHub | JavaScript, PostgreSQL, React

*This application is an education management system.*

* Interfaced with a team of 8 developers in an AGILE environment to conceptualize, develop, and deploy the application

Mar '24

* Orchestrated PostgreSQL database creation & intricate server routes configuration, **maneuvering through complex inter-table relationships,** while maintaining query times **below 25ms**
* Improved teachers' ability to manage class lists & track student grades, presenting data in a visually pleasing manner using **Chart.js and Framer**

## QuizWhiz | Full Stack Engineer | https://github.com/wtucker29/QuizWhiz | Vite, JavaScript, React

*This application is quiz and trivia app that provides randomized questions for a selected category.*

* Developed and executed a full stack quiz and trivia application within a challenging timeframe of 2 days, showcasing **rapid ideation and implementation skills**

Mar '24

* Leveraged **Vite** to efficiently serve client files, coupled with an Express.js middleman server to seamlessly interact with the Open Trivia Database API, ensuring **smooth data retrieval and integration**
* Prioritized user experience by crafting SQL queries optimized for lightning-fast **response times of 10ms**, while maintaining a **clean and responsive** front-end design to enhance usability.

# PROFESSIONAL EXPERIENCE

**Software Developer** Aug '24 - Present

MindClub America

* Lead development of primary user engagement platform (enterprise eLearning application) from PHP to JavaScript/TypeScript and React frontend with Node.js and MySQL backend
* Transformed system performance by METRIC - sunsetted PHP application, building new features faster and enhancing the user experience
* Monetized content delivery by converting passive educational content into a tiered monetized subscription through a Stripe-based system with paywall functionality
* Developed new user access controls, application wide, allowing the platform to be customized to a diverse array of client needs
* Designed comprehensive live and real-time mental health dashboard features including mood logging, habit tracking, anxiety regulation pathways for hypo/hyper-arousal states, and sleep monitoring capabilities using PHP backend with JavaScript
* Optimized security for the client by creating a complete user authentication flow to control user identity and access.
* Built a responsive landing page with integrated health assessment tool, projected to be used by METRIC users, making therapeutic experiences more efficient for Reentry to Recovery organization serving incarcerated individuals
* Increased the marketing capabilities of the platform to a wider segment of clients by redesigning the existing company website and mental health dashboard to achieve a modern and modular look while prioritizing the mobile user experience.

**Nissan North America | Field Quality Engineer 3** Oct '21 - Jan '24

*Nissan Ariya Task Force | Versa and Kicks Model Lead*

* Lead for model responsibility - analyzing, troubleshooting, and directing all incidents of defects, bugs, or suboptimal performance to design and implement the necessary engineering solution and countermeasures across key teams.
* Reported product efficiency and optimization reports to senior leadership on a monthly cadence, with the goal of highlighting emerging and ESCALATING issues
* Identified and researched field incident related to customer satisfaction. Designed and implemented robust engineering solutions and counter measures to optimize critical aspects of the vehicle quality and the driving experience
* Monitored, analyzed, and coordinated warranty and quality targets and outcomes for Versa and Kicks models on a monthly cadence to ensure that Nissan’s field quality goals were met with the goal of exceeding customer satisfaction targets
* Continuously led integration meetings between engineering stakeholders – including manufacturing, suppliers, and design teams – to troubleshoot and creatively respond to product issues while increasing efficiency.
* Led an investigative team to research water quality in international manufacturing plants in order to preemptively improve the quality of the vehicles in the production process
* Led Nissan’s “JD Power” Quality Customer Survey – a robust survey collecting data on every component of product and feature performance
* Coordinated with local and international design teams to address customer feedback to optimize the quality of the product and the model launch
* Successfully achieved full coverage of top quality and performance issues during tenure by accurately identifying and creatively resolving engineering process gaps
* Performed comprehensive product and feature quality audits of products engineered by international manufacturers.
* Acquired additional certification and expertise in high voltage battery components to increase depth and understanding of the product for performance optimization purposes

**Nissan North America | Field Quality Engineer 2** Oct '18 - Oct '21

*Nissan Versa Task Force*

* Coordinated with a cross functional team - including MANUFACTURING, DESIGN, AND SUPPLIERS, to ensure a smooth and successful model launch
* Acquired expertise in the full spectrum of the product and its features. Lead the identification and analysis of troubleshooting fixes in quality and performance throughout the duration of the task force and the product launch
* Researched, investigated, and synthesized a wide breadth of performance and quality issues, including warranty claims, parts returns, and field reports to identify micro and macro performance and efficiency issues for product optimization prior to, and immediately following, launch
* A key member of the product launch team – traveling internationally to provide expertise in the initial quality check of the product prior to launch date
* A key driver in ensuring the efficient use of resources and performance metrics to meet 6 month completion deadline for task force closure and product launch

**Nissan North America | Field Quality Engineer 1** Jan '16 - Oct '18

*Systems Quality Engineer*

* Systematically reviewed quality of design and performance for for body and exterior components for all vehicles manufactured in North America
* Monitored all warranty issue mitigations, analyzing for defects as well as opportunities for optimization and efficiency
* Identified multiple performance defects through production investigation and system testing that optimized engineering and production for the product indefinitely
* Gained expertise in a wide selection of products and features, including Rogue, Altima, Titan, and Frontier.
* Led an investigation into water leaks on the Frontier product and successfully determined the engineering and design defect that was the cause of leaks in over 10,000 vehicles
* Designed and engineered a fix to eliminate the water leak and collaborated across teams and manufacturing plant to ensure an optimal and sustainable fix

# EDUCATION

## Hack Reactor | Advanced Software Engineering Immersive Program Apr '24

* Training in JavaScript, React, Express, PostgreSQL, MongoDB, and MySQL in an Agile environment, including solo coding, pair programming, and team collaboration

## Tennessee Technological University | Master's in Business Administration

* Cybersecurity Management, Network Security, Advanced Data Analytics, Machine Learning

## Georgia Institute of Technology | Bachelor's of Science in Mechanical Engineering

* Calculus 2, Calculus 3, Intro to Computing, Computing Techniques, Statistics and Applications

Dec '22

Dec '15