Warren Cutler

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SKILLS

Technologies: React.js, Redux, TailwindCSS, Fetch API, Node.js, Express.js, PostgreSQL, MongoDB, Jest, Docker, Webpack, Vite
Languages: (proficient) JavaScript ES6, TypeScript, HTML, CSS, (familiar) Python, C++

PROJECTS

A11y Root: Full stack open source VS Code Extension for assessing web accessibility   OSLabs - a11yroot.dev

- Developed standardized RESTful API endpoints, leveraging Express.js to facilitate seamless communication and data integrity between the extension and companion web dashboard, achieving consistent data synchronization.
- Planned and implemented a nonrelational database schema via Mongoose, allowing for the efficient storage and batch retrieval of flexibly structured accessibility trees alongside user project details, and simplifying client side render logic.
- Employed Puppeteer's accessibility snapshot functionality to generate web accessibility trees within a user's IDE, enabling programmatic analysis and feedback for WCAG Level A compliance, improving visibility and streamlining addressing of accessibility issues within users' development workflows.
- Utilized React and client-side routing to build an intuitive and responsive companion web dashboard, providing users with the ability to revisit previously generated trees, and share their results via direct links with collaborators and stakeholders.
- Deployed a secure integration with GitHub OAuth using Node.js to manage user authentication, ensuring ongoing session persistence within the extension.

AltSprout: SPA utilizing LLM AI to generate descriptive image alt text for visual content management

- Engineered LLM-driven alt text generation utilizing OpenAI API, configuring models for image analysis and subsequent descriptive text creation, fine tuning prompting by utilizing user-provided context clues and including guardrails to ensure AI responses conform to safe, inclusive language and avoid vulgar or offensive messaging.
- Designed the UI and render logic for a single-page application through React's built-in hooks, providing users with an intuitive interface to minimize interactions required for batch alt text generation.

EXPERIENCE

Manufacturing Engineer

Sense Labs | Cambridge, MA   September 2022 - September 2024

- Spearheaded production line design of an energy monitor brought to market, determining test software thresholds and UI requirements to simplify operator workflows, load balance efficiently, and prevent quality escapes.
- Designed, deployed, and managed an RMA process at a third party partner, implementing automated functional testing through proprietary software to enable product reclamation and reduce electronic waste by up to 75%.
- Conducted extensive regression testing for monthly software updates, utilizing automated test tools and scripts, to identify and flag performance issues in embedded systems and maintain backwards compatibility of field-deployed legacy devices.

Manufacturing Engineer, New Products

Cognex | Natick, MA   February 2021 - September 2022

- Managed alpha (in-house), beta (CM), and RTM production of machine vision systems, including designing line configuration, training operators, debugging assembly and design issues, resolving test issues, and updating key stakeholders.
- Conducted Design for Assembly exercises with cross-team engineers to improve alpha-stage design standardization, simplify assemblies, plan appropriate test coverage, and leverage past engineering efforts to create a smoother design release process.
- Led mentorship sessions with junior engineers to facilitate the resolution of production bottlenecks, employing root cause analysis and data-driven decision-making processes.
- Designed assembly fixtures in SolidWorks and fabricated them using in-house 3D printing equipment for use in mass production of high-volume machine vision systems, ensuring production capacity and quality met KPIs.

Associate Manufacturing Engineer, Sustaining

Cognex | Natick, MA   May 2018 - February 2021

- Designed, fabricated, and assembled custom modular battery charging/discharging stations, prioritizing ease of use and field repairability, ensuring global distribution centers adhered to lithium battery shipping regulations.
- Organized a swift release process to accelerate development of over forty products in the Life Sciences, coordinating with software engineers to implement production environment testing according to stringent customer-specific requirements.

EDUCATION

Advanced Software Engineering Residency   Codesmith | 2025

- TypeScript-based full stack web development, AI/ML integration, system architecture, DevOps.

Bachelor of Science in Mechanical Engineering   Northeastern University | Boston, MA | 2018

- Capstone Project: Designed and prototyped an ergonomic phone case, significantly improving one-handed phone use.