Warren Cutler

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Technical Skills

Languages: (proficient) JavaScript (ES6), TypeScript, HTML, CSS, (familiar) Python, C++
Technologies: Node.js, Express, React/Redux/Router, PostgreSQL, MongoDB, Mongoose, Puppeteer, Jest, Webpack, Vite

Software Projects

A11y Root (https://a11yroot.dev): *Full stack open source VS Code Extension for assessing web app accessibility* **OSLabs**

- Architected an asynchronous REST-ful HTTPS server (leveraging Express), allowing data writing and retrieval from both the extension and its companion web dashboard, establishing standardized API endpoints between the two applications to ensure data fidelity and protect user data from unauthorized access.
- 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 data manipulation required to render complex tree structure objects in a user friendly manner.
- Employed Puppeteer's accessibility snapshot functionality to generate and manipulate accessibility trees within a user's IDE (via headless browser), 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 or delete any previously generated trees, and share their accessibility compliance results via direct links, allowing users' collaborators and stakeholders to review results asynchronously.
- Integrated with Github Oauth to create and maintain users, allowing sessions to persist within the extension after initial login and creating a secure data pipeline between the extension and companion web dashboard.

AltSprout: *Web app tool utilizing LLM AI to generate descriptive alt text for visual content management*

- Engineered AI-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 and implemented the UI and render logic for a single-page application using React's built-in state management, providing users with an intuitive interface to minimize interactions required for batch alt text generation.

Work Experience

Sense Labs, Inc. / Schneider Electric **Cambridge, MA**
Manufacturing Engineer *September 2022 - September 2024*

- Spearheaded production line design of an energy monitor brought to market, determining test software and UI requirements, refining testing thresholds, and overseeing deployment, operator training, and load balancing.
- Planned, deployed, and managed an RMA process at a third party partner, implementing automated functional testing through proprietary software to reclaim product inventory and reduce electronic waste.

Cognex Corporation **Natick, MA**
Manufacturing Engineer, New Product Introduction *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 issues, resolving test issues, and updating key stakeholders.
- Headed Design for Assembly reviews with cross-team engineers for alpha stage projects to improve hardware standardization, simplify processes, plan appropriate test coverage, and leverage past engineering efforts.
- 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 Engineering *May 2018 - February 2021*

- Coordinated with software and electrical engineers to build three types of modular battery charging stations, developing the mechanical design, fabrication, and assembly processes to minimize footprint and maximize ease of use.
- Organized a swift release process to accelerate manufacturing of over forty customer-specific products in the Life Sciences, coordinating with test and software engineers to identify key requirements and implement production environment testing.

Education

Codesmith *Advanced Software Engineering Residency* *2025*
TypeScript-based fullstack development, AI/ML integration, system architecture, DevOps
Northeastern University *Bachelor of Science in Mechanical Engineering* *2018*
Capstone Project: Designed and prototyped an ergonomic phone case, significantly improving one-handed phone use.