

## SUMMARY

Results-driven software engineer with 5+ years of multinational working experience in the semiconductor, consulting, clean energy, and e-commerce industries. Highly skilled in implementing scalable, performant, and accessible software solutions in embedded systems, data visualization, and web applications. Excel in cross-functional teams with extensive knowledge of modern development cycles and operations.

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## WORK EXPERIENCE

### **NVIDIA @ Santa Clara, CA**

Aug 2024 - Present

Software Engineer | React, TypeScript, C/C++, Emscripten, WebAssembly, Jenkins, Splunk

*Organization description:* Tegra Systems Software develops software and drivers for system-on-chip (SoC) in embedded and automotive applications.

- Integrated host-side C++ tooling support with DRIVE Thor SoC to determine bandwidth requirements for display configurations in automotive safety-critical applications.
- Proposed and developed React-based GUI components to visualize the tool's input/output, streamlining validation workflows for client engineers.
- Optimized performance by leveraging memoization (React.memo, useMemo, useCallback) to reduce unnecessary re-renders and debouncing inputs.
- Utilized Emscripten and WebAssembly to compile performance-critical tool logic into efficient, browser-compatible modules, enabling seamless GUI integration.
- Added support for build/profile variants in display driver firmware, enabling a safety build for safety-critical automotive applications.
- Refactored display driver architecture for DRIVE Thor SoC, implementing error detection modules (e.g., frame buffer validation, interrupt handling) to comply with automotive functional safety requirements.
- Contributed to toolchain documentation, including API specifications and driver integration guides, to accelerate the adoption of DRIVE Thor.
- Utilized Jenkins and Splunk pipelines for automated workflows in a cloud-based development environment with real-time monitoring and logging of CI/CD performance and application metrics, improving debugging efficiency.

### **Mingju Consulting and Management @ Remote**

May 2023 - April 2024

React Developer | React, TypeScript, Recharts, D3.js, Material UI, Python, Playwright,

*Company description:* Mingju serves the high-technology industries in Zhejiang province as a talent acquisition firm.

- Architected an interactive hiring trends dashboard using D3.js and Recharts, enabling real-time visualization of data points with dynamic filters (region, role, seniority).
- Optimized D3.js rendering by implementing virtualized rendering to render visible chart elements selectively.
- Applied debouncing and throttling to filter and zoom interactions, minimizing re-render frequency and improving responsiveness.
- Built automated data pipelines to cleanse and aggregate raw employment statistics from sources into the database, improving data accuracy.
- Integrated Playwright's multi-browser automation capabilities into existing scraping pipelines to enhance data extraction from JavaScript-heavy, dynamic websites.
- Developed reusable TypeScript chart components (bar and heatmap) with React Context API for state sharing, cutting front-end development time for future projects.
- Engineered cross-platform visualization tools with responsive web design principles, achieving 100% compatibility across desktop, tablet, and mobile using CSS Grid and Flexbox.
- Integrated REST APIs to fetch real-time talent supply/demand metrics, enhancing dashboard relevance for corporate clients.
- Optimized D3.js rendering with React memoization, reducing dashboard load times for large datasets.
- Implemented GitHub Actions workflows for automated CI/CD pipelines, enabling continuous integration with unit and integration tests.
- Deployed and managed dashboard backend services on Azure Cloud and Azure Blob Storage for efficient storage of the large-scale datasets, improving scalability.

### **New England Clean Energy @ Hudson, MA**

May 2022 - Nov 2022

Software Developer | React, TypeScript, Webpack's Module Federation, WordPress

*Company description:* A solar panel installer that leverages tools to estimate residential and commercial solar system quotes accurately.

- Led migration from WordPress to React, reducing page load times through code-splitting (Webpack) and lazy-loading while establishing reusable component libraries for design consistency.
- Integrated Aurora Solar and Google Project Sunroof APIs into React, engineering a unified solar mapping interface.
- Developed solar cost estimation module with dynamic React forms and state management (Redux Toolkit), reducing quote generation time.

- Utilized dynamic imports and suspense for lazy-loading heavy solar visualization modules, reducing initial bundle size and cutting page load times
- Modernized legacy workflows by progressively replacing WordPress plugins with React micro-frontends, improving feature deployment speed while maintaining backward compatibility.
- Automated API data synchronization between Aurora Solar and internal databases, achieving improved accuracy in system sizing and cost calculations.
- Authored migration guidelines for React component architecture, API error handling, and Jest unit testing, cutting onboarding time for new developers.
- Collaborated with UX teams to convert Canva prototypes into responsive React layouts, enhancing user engagement through intuitive solar panel placement controls.
- Configured GitLab CI/CD pipelines to automate build, test, and deployment of data pipelines and backend services

#### **Minh Hung Investment & Development JSC Remote**

Jan 2020 - May 2022

Web Developer | React, TypeScript, Laravel, PHP, MySQL, GraphQL, AWS S3, Cypress

*Company description:* A distributor and vendor of quality construction/power tools.

- Architected a full-stack e-commerce platform using a Laravel-based GraphQL API, leveraging Lighthouse to replace traditional RESTful approach and a React frontend with advanced query optimization and lazy-loading for efficient data retrieval.
- Engineered scalable MVC architecture with Laravel, implementing role-based authentication, payment gateway integration, and automated inventory syncing via MySQL triggers.
- Developed CMS interface with dynamic CRUD operations for product catalog management, including image uploads (AWS S3) and bulk CSV import/export functionality.
- Designed responsive UI components using React Bootstrap, achieving 100% cross-browser compatibility and responsiveness for product pages.
- Validated API endpoints by building Postman test suites for routes, ensuring reliability in user authentication and order processing workflows.
- Collaborated with UX teams to translate Figma prototypes into pixel-perfect React layouts, reducing front-end revision cycles.
- Leveraged Cypress to implement comprehensive end-to-end tests for critical user flows, automating cross-platform validations and significantly reducing regression issues during deployment.

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## **PROJECTS**

### **Brigham and Women's Hospital Kiosk Application**

Full-Stack Software Engineer | React, TypeScript, PostgreSQL, Jira, Git, Agile Methodologies, Figma, Docker, AWS S3

*Institute description:* A teaching hospital of Harvard Medical School, developing an internal kiosk system for patient and staff navigation across multiple medical facilities.

- Led the development of a hospital navigation kiosk featuring dynamic pathfinding, interactive map editing, and patient order tracking.
- Developed reusable React components and custom hooks for HTTP requests, map filtering, and digital signage.
- Designed advanced features, including turn-by-turn navigation with voice control and seamless AWS service integration.
- Implemented a secure authentication system with Microsoft Authenticator 2FA and established YAML configurations for database access control.
- Leading daily standups and sprint planning while maintaining documentation in Jira.

### **Hackathon@WPI (GoatHacks)**

Full-Stack Software Developer | Python Flask, Git, Devpost, HTML/CSS, JavaScript

*Event Description:* Annual hackathon event hosted by WPI and sponsored by industry leaders like MathWorks and ACM.

- Redesigned a responsive front-end interface for the event website with improved mobile accessibility.
- Refactored and documented legacy Flask codebase, implementing best practices for maintainability and scalability.
- Integrated Devpost and Slack to streamline event registration and participant communication.
- Built dynamic form validation and submission handling for participant registration.
- Created an interactive event schedule display with real-time updates and filtering capabilities.

### **(Personal) 3D Interactive Portfolio Website**

Full-Stack Developer | React, Three.js, TypeScript, Redux, Tailwind CSS, i18next, React Three Fiber

*Project description:* An immersive 3D portfolio website featuring interactive animations, dynamic lighting, and multilingual support

- Engineered a responsive 3D environment with optimized model loading and adaptive rendering based on device capabilities.
- Multilingual support in English, Vietnamese, and Chinese using i18next.
- Architected a robust state management system using Redux Toolkit for theme persistence and created custom hooks for animations and alerts.
- Built performant interactive animations, including character movement, scene rotation, and dynamic lighting transitions.
- Designed an accessible UI with keyboard/mouse events, control loading states, and responsive styling.

### **(Personal) Gwent Card Game Clones**

Full-Stack Developer | React, TypeScript, Redux Toolkit

*Project description:* A personal interpretation of CD PROJEKT RED's Gwent card game from The Witcher 3, featuring strategic AI gameplay, advanced state management, and authentic game mechanics.

- Engineered a sophisticated AI system using strategy patterns for decision-making and strategic play sequencing.
  - Implemented comprehensive game logic, including all special card effects in The Witcher 3.
  - Designed custom hooks for game logic and AI behavior for maintainable state management.
  - Built an interactive card-playing system with select-and-click mechanics, animated transitions, and dynamic score calculations.
  - Developed an automated testing suite for game logic and AI decision-making, ensuring consistent behavior across complex card interactions and game scenarios.
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## EDUCATION

**BS. Computer Science @** Worcester Polytechnic Institute (WPI), Worcester, MA (GPA 3.95/4.00)

- **Related Coursework:** Software Engineering, Database Systems, Object-Oriented Design Concepts, Algorithms, AI/ML, Operating Systems, Computer Graphics, Probability/Statistics.
- Inducted into the Computer Science National Honor Society.

**International Baccalaureate (IB) Bilingual Diploma** American International School Vietnam (GPA 4.3/4.5)

- Diploma received 41 out of 45 possible points, ranking 1st amongst the graduating class.

## TECHNICAL SKILLS

- **Programming:** C/C++, Python, JavaScript, TypeScript, PHP, Java
  - **Backend & APIs:** Flask, [Node.js](#), Express.js, Laravel (PHP)
  - **Databases/Cloud Services:** PostgreSQL, MySQL, MongoDB, AWS S3, MS Azure
  - **DevOps:** Git, Gerrit, GitHub Actions, GitLab, Splunk, Jenkins
  - **Software Development Methodologies:** Agile, Waterfall, Test-Driven Development (TDD)
  - **Testing:** Jest, React Testing Library, Cypress, Playwright, Lighthouse
  - **Visualization & UI/UX:** Figma, i18next (Multilingual Support), Responsive Design, Accessibility
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## LANGUAGE PROFICIENCY:

Native English Fluency, Native Vietnamese Fluency, Conversational Chinese.