Viet Hung Pham

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SUMMARY

Results-driven software engineer proven at NVIDIA with multinational working experience implementing scalable UI/UX solutions in embedded systems, data visualization, and web applications in semiconductor, consulting, and e-commerce.

TECHNICAL SKILLS

- **Programming:** C++, Python, TypeScript, JavaScript, PHP
- **Backend & APIs:** Flask, Node.js, Laravel (PHP), REST APIs
- **Databases:** PostgreSQL, MySQL, MongoDB
- **Software Development Methodologies:** Agile, SLDC, Test-Driven Development (TDD)
- **Visualization & UI/UX:** Figma, i18next (Multilingual Support), Responsive Web Design

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WORK EXPERIENCE

NVIDIA @ Santa Clara, CA   Aug 2024 - Feb 2025

Software Engineer | React, Unix, C/C++, Gerrit, Jira, Confluence, Splunk, Jenkins

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 input/output, streamlining validation workflows for customer engineers.
- Added support for build/profile variants in display driver firmware, enabling 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 across partner teams.

Mingju Consulting and Management @ Hangzhou, Zhejiang   Aug 2023 - Jan 2024

Technical Lead & Market Analyst | React, TypeScript, D3.js, Recharts

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

- Architected interactive hiring trends dashboard using D3.js and Recharts, enabling real-time visualization of data points with dynamic filters (region, role, seniority).
- Built automated data pipelines to cleanse and aggregate raw employment statistics from sources into the database, improving data accuracy.
- 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 Web Workers and React memoization, reducing dashboard load times for large datasets.
- Pioneered data export functionality to PDF/CSV using Node.js, enabling clients to automate reports and streamline hiring strategies.

New England Clean Energy @ Hudson, MA   May 2022 - Sep 2022

Software Developer & Technical Staff | React, WordPress, Canva, Aurora Solar, Google Project Sunroof

Company description: A solar panels 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 POC with dynamic React forms and state management (Redux Toolkit), reducing quote generation time.
- 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.

Minh Hung Investment & Development JSC Ho Chi Minh City, Vietnam   Jan 2020 - Aug 2021
Web Developer | Laravel (PHP), React, React Bootstrap, Postman, Figma, MySQL
Company description: A distributor and vendor of quality construction/power tools.
- Architected a full-stack e-commerce platform using Laravel REST API (Eloquent ORM, Blade templating) and React frontend with query optimization and React lazy-loading.
- Engineered scalable MVC architecture with Laravel, implementing role-based authentication (JWT), payment gateway integration (Stripe), 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.

PROJECTS

Brigham and Women's Hospital Kiosk Application
Full-Stack Software Engineer | React, Typescript, PostgreSQL, Jira, Git, Agile Methodologies, Figma, Docker, AWS
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 leads like MathWorks and ACM.
- Redesigned a responsive front-end interface for the event website with improved mobile accessibility.
- Refactor and document 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 with 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.

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 to 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 - ranked 1st amongst the graduating class.

LANGUAGE PROFICIENCY:
Native English Fluency, Native Vietnamese Fluency, Conversational Chinese.