MANUGA HEWA PATHIRANA

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Summary

Full Stack Engineer with experience developing and deploying high-performance web and mobile applications. Skilled in React, Node.js, and cloud technologies with expertise in accessibility, testing, and performance optimization. Proven ability to deliver scalable solutions while leading teams and ensuring high development standards.

Education

Bachelor of Engineering Science (B.E.Sc.), Software Engineering   Sept 2021 – Jul 2025

Western University, London, ON

Relevant Coursework: Web Technologies, Database Management Systems, Software Testing & Maintenance, Computer Networks, Cloud Computing, Information Security, Human-Computer Interface Design

Technical Skills

- **Frontend:** React, React Native, Redux, TypeScript, JavaScript (ES6+), HTML5, CSS3, Bootstrap 5, TailwindCSS
- **Backend & APIs:** Node.js, Express.js, REST APIs, WebSockets, microservices
- **Databases:** PostgreSQL (Prisma ORM, migrations), MongoDB, MySQL
- **Cloud & DevOps:** Google Cloud Platform (GCP), AWS, Microsoft Azure, Docker, Kubernetes, GitHub Actions, CI/CD pipelines
- **Testing & Quality:** Jest, React Testing Library, unit and integration testing, debugging workflows
- **Other:** Python (PyTorch, NumPy, pandas), R (ggplot2, lme4), OpenGL, networking fundamentals, cryptography

Professional Experience

Frontend Developer | *Alice in Brussels, Digital Exhibition Platform*   Jun 2025 – Sept 2025

Work-Study Position, Western University

- Rebuilt landing page and exhibition sections using React and Bootstrap, ensuring cross-browser consistency and reducing layout shift, which improved user retention and navigation clarity.
- Created a scalable design system with CSS variables and reusable components; introduced refined color palette and animations, improving aesthetic quality and brand alignment.
- Implemented interactive image overlays with clickable frames, enhancing exhibit exploration and increasing average time-on-page.
- Optimized performance through lazy loading and image compression, decreasing load times and improving Lighthouse scores.
- Increased accessibility by correcting color contrast, adding alt text and ARIA labels, and enabling full keyboard navigation.
- Documented frontend standards and deployment workflows in GitHub, reducing onboarding time for future developers.

Frontend Developer | *DURB*   May 2024 – Aug 2024

Volunteer Position

- Optimized React application by modularizing components, applying lazy loading, and implementing code splitting, which improved page load speed by 25%.
- Collaborated with backend developers to refine REST API integration and reduce data transfer overhead, resulting in smoother user experience.
- Maintained scalable codebase using GitHub workflows, conducted code reviews, and promoted best practices for frontend development across the team.
- Applied progressive enhancement principles and graceful degradation strategies, ensuring reliable functionality across diverse browsers and devices.

Team Lead & Full Stack Developer | *Capstone Project: Exercise Prescription Mobile App*   Sept 2024 – Apr 2025

Western University

- Deployed React Native mobile app with Node.js microservices on Google Cloud Platform; containerized with Docker to enable scalable architecture.
- Built unit and integration testing framework that reduced release cycles by 30% while maintaining production stability.
- Led a 4-person team in sprint planning, code reviews, and technical mentoring, ensuring consistent code quality and collaboration.
- Designed accessible, responsive interfaces following WCAG standards; added robust error handling to maintain seamless user experience across devices.