

# Loke Kum Yew

## Full-Stack Developer (Web and Mobile)

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[Portfolio](#) | [LinkedIn](#) | [GitHub](#)



### Career Interest

First-Class Honours engineering graduate from NTU with a passion for building impactful software. I leverage my background in Robotics and Mechatronics to bring engineering precision to full-stack development, with demonstrated experience in creating cost-optimized SaaS solutions, real-time applications, and custom WordPress plugins. Seeking to apply my skills in modern web technologies (React, Next.js, TypeScript) and data-driven problem-solving to a challenging developer role.

### Skills

- **Languages:** JavaScript, TypeScript, Python, C++, PHP, HTML/CSS
- **Frameworks & Libraries:** Next.js, React, React Native, Node.js, Express.js, Tailwind CSS
- **Databases & BaaS:** PostgreSQL, MySQL, MongoDB, Supabase, Firebase
- **Tools & Platforms:** Git, GitHub (CI/CD), Docker, Vercel, Render
- **Design:** Figma, Adobe Illustrator

### Projects

#### Thesis Publication in the ICSR + BioMed 2024 Conference

- "Personalised 3D Human Digital Twin with Soft-Body Feet for Walking Simulation", was published at the ICSR + BioMed 2024 Conference [\[Link to Paper\]](#)
- Enhanced human-robot interaction simulation, implementing soft-body physics to replicate human tissue and improve modelling accuracy
- Utilised Python APIs, custom C++ scripting, and data visualisation, gaining skills in source control, testing, debugging, and team collaboration
- **Technologies:** Python (NumPy, SciPy), C++, SOFA Framework, Git

#### Cluck Food App

- React Native mobile app for seamless menu discovery
- Features intuitive UI/UX with wireframes, prototypes, and user journey mapping
- Meta React Native Specialisation Project [\[GitHub\]](#)

#### Tamagotchi-Inspired Pet App

- Web-based pet app where users care for a digital pet.
- Built with a React frontend for real-time updates and backend API with MongoDB to store pet and user data.
- Deployed on Vercel for smooth performance.
- Reference to the [GitHub repository](#) and [Live Demo](#)
- **Technologies:** React, Node.js, Express.js, MongoDB, WebSockets, Vercel

### Experience

**Freelance Full-Stack Developer** | June 2024 - Present

#### Email Verification SaaS - GTM Tool

- Architected a cost-optimized, multi-stage email validation engine for a new SaaS product.
- Prototyped open-source tools, achieving a 36% invalid email reduction in the initial filtering.
- Designed a proprietary caching and domain-list system to minimize paid API usage and maximize profitability.
- **Technologies:** Python, Node.js, REST APIs, Redis

#### Secure SaaS Frontend Template with Supabase & Next.js

- Developed a secure, full-stack application frontend as template for future projects.
- Integrated a complete **Supabase** authentication system and an authenticated user portal.
- Built a responsive and type-safe UI using **Next.js**, **TypeScript**, **Tailwind CSS**, and **shadcn/ui**.
- Implemented a **PostgreSQL** schema with Row Level Security (RLS) for data protection.
- Configured an automated **CI/CD** pipeline using **GitHub Actions** for quality assurance.
- **Technologies:** Next.js, TypeScript, Tailwind CSS, shadcn/ui, Supabase (Auth, PostgreSQL), GitHub Actions (CI/CD)

#### Wordpress Plugin Development for Role-Playing Game

- Developed custom **WordPress** plugins with **MySQL**, **AJAX**, and shortcodes for seamless integration.
- Built drag-and-drop hierarchy management and interactive loot-drop systems.
- Designed **REST API** endpoints for efficient data retrieval and management, optimized database queries and implemented real-time UI updates.
- **Technologies:** PHP, MySQL, JavaScript (AJAX), WordPress API, HTML/CSS

### Education

#### **Bachelor of Engineering: Mechanical Engineering**

#### Specialisation in Robotics & Mechatronics

Nanyang Technological University | Aug 2020 - Jun 2024

**First Class Honours (Distinction), 4.91/5.00**

#### **Meta React Native Certification**

#### Meta React Native Specialisation

Meta & Coursera | Jun 2023 - Oct 2023