

Songtao Liu

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Skills

Programming Languages: JavaScript, TypeScript, Java, C#, React Native, Flutter, HTML, CSS

Tools: Git, React, Next.js, Tailwind CSS, NextAuth.js, Keycloak, Docker, Jest

Databases: PostgreSQL, MySQL, MongoDB, Prisma, Mongoose, Firebase, SQLite, MSSQL Server

Methodologies: Object-Oriented Design, Agile, Unit Test, Server-Side and Client-Side Rendering

Technologies: User Authentication and Management, State Management, Data Fetching, Session Management

Projects

Modern Responsive Blogging Platform

May 2025 – July 2025

- Developed a full-featured blogging platform using the MERN stack with **React 19**, **Express 5**, and **MongoDB**
- Implemented a responsive UI with **Tailwind CSS**, including a dynamic navbar, blog listing, post pages, and side menu
- Integrated **Clerk for user authentication**, social login, and **role-based authorization**; Protected backend API using security tokens
- Built **RESTful APIs** with Express 5 and Mongoose, supporting **CRUD** operations, user-generated content, and page visit tracking
- Utilized **React Query** for efficient **client-side caching**, **data fetching**, optimistic updates, **infinite scroll**, and **filtering**
- Deployed the **full-stack application** to a Virtual Private Servers using PM2 for production process management

Next.js Blog with Admin Dashboard

January 2025 – March 2025

- Built a **full-stack blog** and admin dashboard application using Next.js 14 with **App Router** and **Server Actions**
- Implemented dynamic routing, shared layouts, and responsive UI with Tailwind CSS and CSS Modules
- Integrated **MongoDB** for persistent storage and implemented data fetching with **Server Components** and **Cache-Control**
- Implemented authentication with **NextAuth.js**, protected routes with middleware, and added **Admin Dashboard** functionality
- Applied **SEO strategies** for both static and dynamic pages and handled hydration/rendering issues in Next.js 14
- Gained hands-on experience with Next.js concepts such as **useFormState**, **useRouter**, and **Server/Client component**

CampusConnect Admin Suite

September 2024 – December 2024

- Created a full-featured school management system using Next.js 15, React, Prisma ORM, PostgreSQL, and Clerk Authentication
- Implemented role-based dashboards for Admin, Teacher, Parent, and Student including **Chart Visualizations** (Recharts)
- Designed **dynamic forms** using **React Hook Form** and **Zod** to manage subjects, classes, exams, events and announcements
- Integrated Clerk for authentication and implemented **role-based access control (RBAC)** with protected routes and **conditional data fetching** based on user role
- Fetched and mutated **relational data using Prisma** (nested queries, pagination, search filters)
- Built **server actions** for secure CRUD operations
- Containerized and deployed the application with **Docker** and **PostgreSQL**; integrated Cloudinary for **image management** and Toastify for **real-time notifications**

Education

Diploma in Digital Media and IT - Computer Software Development

September 2023 – May 2025

Northern Alberta Institute of Technology

Edmonton, Canada

- GPA: 3.65 / 4.0

- Honours: Dean's Honour Roll (December 2023, May 2024, December 2024)

Bachelor of Economics

September 2016 – July 2020

Zhengzhou University

Zhengzhou, China