

Alan Biju Varghese

MERN Stack Developer

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Profile Summary

Full-stack web designer and developer with over four years of freelancing experience. Specialized in creating visually stunning and accessible web applications that prioritize high availability and scalability. Committed to lifelong learning and embracing new challenges, seeking continuous growth and improvement.

Technical Skills

Languages: JavaScript, TypeScript, Python, C#, MongoDB, MySQL, HTML, (S)CSS

Libraries & Frameworks: Node.js, Express, React, NextJS 14, TailwindCSS, Ionic, Electron

Microservices: Docker, Kubernetes, Apache Kafka, NATS, Redis, Helm

Tools & Platforms: Git, Jest, Github Actions, Netlify, Render, Vercel, AWS, Firebase

Design & Prototyping: Figma, Illustrator, Photoshop, Blender

Concepts: Clean Architecture, MVC Architecture, SOLID Principles, Agile Methodologies

Projects

BitWarriors: Competitive Coding Platform | *Next.js, React.js, Node, Docker, Kubernetes, Apache Kafka* [Live](#) | [GitHub](#)

- Led the development of an AI-powered competitive coding platform designed to help beginners improve their programming skills and in turn their problem solving abilities.
- Decided on a **microservices** architecture using **Node.js** after careful analysis of key requirements, comprised of five services for each part of the core functionality.
- Followed **Clean Architecture** and **SOLID Principles** to cleanly separate business logic.
- Setup an isolated **code execution sandbox** for safe evaluation of user submitted solutions.
- Implemented an **AI-powered** code review and feedback system using **Google Gemini API**.
- Took advantage of **Nextjs 14** for server-side rendering and hosted the frontend on **Vercel**.
- Used **Apache Kafka** for seamless data transfer between services including submission data.
- Utilized **Docker** to containerize, **Kubernetes** to orchestrate and successfully deployed to **Google Cloud (GKE)**.

TaskRaft: Collaborative Task Management App | *React.js, MongoDB, Express, Node, WebSockets* [Live](#) | [GitHub](#)

- A compact mini-SaaS application designed for collaborative task management using the efficient **Kanban** system. Similar to Trello and Jira Boards.
- Developed a real-time task synchronization system using WebSockets and **Socket.io**.
- Applied a minimalist design system using **shadcn/ui** components and **TailwindCSS**.
- Ensured security and resilience by following best practices including schema validations with **Zod**, protective measures using **Express Helmet** and rate limiting.
- Built a **CI/CD pipeline** using **Github Actions** and **Docker**, ensuring consistent and reliable releases.
- Published as a **Docker** image on **Dockerhub** and deployed on **Render**.

Kydu: Location Based Errands App | *Node, Express, MongoDB, Firebase* [GitHub](#)

- An online platform to post "gigs" requesting assistance with a variety of tasks such as personal aid, relocation, delivery, handyman services and more.
- Collaborated with a Flutter developer to design and deploy a scalable **RESTful API** using **Node** and **Express**.
- Developed a proximity-based querying system using **MongoDB Geospatial Indexes**.
- Implemented **live chat** and alerts using **Socket.io**.
- Enabled real-time device specific notifications using **Firebase Cloud Messaging**.
- Implemented **unit testing** using **Jest** to ensure stable release cycles.
- Deployed on **AWS EC2**, Database setup with **MongoDB Atlas**.

Mini Projects

BitBin | *MongoDB, Express, Node, EJS*

[GitHub](#)

- An online content-hosting service where users can store code snippets or plain text and share them via links.
- Utilized **Embedded JavaScript (EJS)** templates for fast server-side rendering of textual content.

cheriya.link | *MongoDB, Express, Node, Passport.js*

[GitHub](#)

- An URL Shortener web app that allows for compressing any given URL.
- Utilized **Google Safe Browsing API** to detect and thwart spam.

Padlock | *JavaScript, ZXCVCBN, GPW*

[Live](#) | [GitHub](#)

- A sophisticated web based password generator with strength checking written in Vanilla JavaScript.
- Utilized **zxcvbn** by Dropbox to measure password strength.
- Implemented **Morrie Gasser's algorithm** for generating pronounceable passwords.

Kards | *JavaScript*

[Demo](#) | [Live](#) | [GitHub](#)

- A Kanban board web application built like Trello with fully local data storage.
- Written in pure **vanilla JavaScript** with no external dependencies.
- Cloned over **300+ times**, **4000+ views** on YouTube, widely starred on Github.

Experience

Freelance

Jan 2020 – Dec 2023

Full-Stack Web Developer

Remote

- Worked collaboratively with designers, developers and clients in remote settings, ensuring seamless project execution and delivery of web applications.
- Identified and resolved complex technical issues in large codebases effectively, ensuring stability of production deployments.
- Optimized database queries, reducing page load times by 20% and enhancing overall application performance.

Education

MERN Stack Development

2023 - Present

Prototype

Trivandrum, Kerala

Higher Secondary (Computer Science)

2021 - 2023

All Saints, Chayam (CBSE)

Trivandrum, Kerala