

SUSHIL KARKI

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SR. FRONTEND ENGINEER

Senior Frontend Engineer with over 6 years of experience building scalable web applications across Legal Tech, Real Estate, and Ed Tech domains. Led and contributed to the architecture, development, and maintenance of AI-powered enterprise search solutions, knowledge management SaaS platforms, contract management systems, and real-time communication tools for multinational clients. Proficient in JavaScript (ES6+), TypeScript, Angular (7–19), React, Vue.js, Node.js, Express, Next.js, AWS, DynamoDB, and MongoDB. Experienced in Agile, waterfall, and iterative environments.

- Component-Driven Development • IaC • DevOps & Automation • Responsive and Cross-Browser Development
- Cloud Computing • Serverless Back-End Development • Event-Driven Architecture • TDD
- Asynchronous & Non-Blocking Programming • Reactive Programming

Languages: JavaScript (ES6+), TypeScript

Web: HTML, CSS, SASS, jQuery, Tailwind CSS, Bootstrap, PrimeNG, Angular Material, React Context API, Socket.IO, Redux, Vuex, NgRx, RxJs, Service Worker

Web Services: GraphQL, REST, AWS Cognito, Azure AD, JSON, XML, JWT

Web/App Servers: Apache, Nginx, Node/Node.js

Frameworks: Bulma, Ant Design, Angular, Ionic, Vue.js, Next.js, Express.js, Jest, Cypress

Databases: DynamoDB, MongoDB, MySQL

Design Patterns: Singleton, Factory, Observer, Decorator, Dependency Injection, Model-View-Controller

SDLC: Agile, Scrum, Rapid Prototyping, Waterfall

Tools: Docker, Jenkins, AngularCLI, Git, Docker, Postman, ESLint, Render, Heroku, Firebase, npm, yarn, Jira, Trello, Webpack, Vite, SharePoint Query tool

Platforms: Windows, MacOS, Linux, Amazon Web Services (AWS)

Application/Software: SharePointOnline

PROFESSIONAL EXPERIENCE

CAREER NOTE: Completed on-campus studies and currently taking distance education courses to complete a **Master's Degree in Computer Science** (Available for full-time, W-2 employment).

YASOK SYSTEMS, Kathmandu, Nepal • 06/2022 – 11/2024

IT solutions provider dedicated to delivering cutting-edge technology solutions across the globe and the USA.

Sr. Software Engineer

Contributed to Architecture and development for AI-driven enterprise SaaS search solutions.

- Led UI architecture for 10+ AI-powered search solutions using Angular, CoveoJS, React.js, and TailwindCSS, unifying diverse content sources with advanced search, filtering, and personalization for 10,000+ daily users.
- Built 20+ reusable libraries for a Document & Expert Discovery System integrated with Microsoft Graph, Teams, SharePoint, and NetDocs, secured via Azure AD, enhancing security and cutting dev time.
- Optimized search platforms performance by leveraging virtual scrolling, memoization, Code splitting, and service worker caching, reducing load times and improving user retention across multiple high-traffic enterprise apps.
- Ensured quality across search solutions with TDD, using Jest and Cypress to cut post-deployment issues by 50%.
- Automated CI/CD with AWS (CodeCommit, CodePipeline, CodeBuild, CodeDeploy), boosting stability to 99.9% uptime and reducing deployment failures and costs.
- Implemented consistent theming across KM portals using Tailwind CSS and Material UI, enabling dynamic modes and reusable design tokens to enhance brand consistency and UX.

Technologies Used: JavaScript, Angular, React.js, jQuery, AWS S3, AWS CloudFront, Git, AWS CodePipeline, HTML, CSS, JavaScript, Next.js, Node.js, jQuery, CoveoJS, SharePoint Online, Microsoft Graph.

TEKKON TECHNOLOGIES, Kathmandu, Nepal • 09/2019 – 06/2020 & 04/2021 – 06/2022

Tekkon Technologies is an Australian IT services company headquartered in Fremantle, Western Australia.

FullStack Developer

Developed, maintained, and optimized a full-stack contract management portal and its underlying serverless APIs.

- Developed a Smart Legal Contracts portal with Angular, Node.js, DynamoDB, and S3, enabling contract creation, sharing, and tracking, boosting operational efficiency by 30%.

- Built scalable GraphQL APIs with Apollo, Node.js, and AWS Lambda, secured with Cognito and deployed via Serverless Framework, increasing data transfer speed by 40% and cutting costs by 30%.
- Created 30+ modular UI components using PrimeNG and Material UI, tested in Storybook, for collaboration, document organization, and search, enhancing consistency and reducing dev time by 40%.
- Optimized contract viewer performance with Angular OnPush, lazy loading, Web Workers, and service worker caching, improving load speed by 75%.
- Designed RxJS-based shared service layers with JWT to centralize API calls, caching, and error handling, enhancing consistency across 10+ modules and reducing code duplication.
- Automated the provisioning of cloud infrastructure (CloudFront, S3, API Gateway, Lambda) and CI/CD pipelines (AWS CodePipeline, AWS CodeBuild) using Infrastructure as Code (IaC) with AWS CloudFormation.

Technologies Used: Angular (9-14), Node.js, GraphQL, Serverless, PrimeNG, Apollo (Client & Server), Service Workers, AWS (CloudFormation, CodePipeline, Lambda, DynamoDB, Cognito, S3).

KOTUKO, Kathmandu, Nepal • 09/2020 – 03/2021

A Kathmandu-based IT services company, an offshore development center for Italy's Kotuko S.r.l.

Software Developer

- Built and optimized a real-time communication app for a travel agency using Angular, Socket.io, and Jitsi, supporting 2K+ daily users and boosting customer engagement by 40%.
- Converted complex Excel-based medical diagnostics into a web app using Vue.js, Node.js, MongoDB, and Docker, halving processing time and improving efficiency and consistency.
- Refactored the API service layer of a vehicle rental Ionic application, capitalizing on RxJS operators (switchMap, mergeMap, combineLatest) and leveraging the Observer pattern to achieve 30% faster UI response times.

Technologies Used: Angular, Vue.js, Node.js, Express, MongoDB, Socket.io, Jitsi, Ant Design, Storybook, Git, Jira, Socket.io, Docker.

YARSHA TECH, Kathmandu, Nepal • 09/2018 – 09/2019

Web Developer

Built and maintained UIs for SaaS-based school management software websites.

- Maintained 10+ websites for a school management product by implementing new pages, adding features, resolving UI issues, and enhancing code quality using ES6+ features, improving user experience significantly.
- Learned Angular and Material UI to implement location-based filtering in a real estate PWA.

Technologies Used: ES6+, Angular, React.js, Bootstrap, HTML, CSS, JavaScript, Material UI, Node.js, JWT.

ACADEMIC PROJECTS

Maharishi International University (2025)

- **IntelliDocs: AI-Powered Document Search and Management System:** Built a signal-based Angular app for document management using Node.js, Express.js, MongoDB (with Vector Index), and Material UI. Integrated S3 uploads, document chunking, OpenAI vector embeddings, JWT auth, and RAG-based semantic search.

PERSONAL PROJECTS

AI powered E-Library (2025): Built AI-powered E-Library built with React, Node.js, and Express, deployed to AWS with Serverless Framework on Lambda and API Gateway. Features JWT authentication and Gemini AI for summarization and MCQ generation. Frontend hosted on S3 and CloudFront, with CI/CD via AWS CodePipeline.

EDUCATION

Master of Science in Computer Science

(In progress via distance education; expected completion 06/2027)

Maharishi International University, Fairfield, Iowa

Key Courses: Modern Web Application, Algorithm, Cloud Computing, Web Application Programming

Bachelor of Science in Computer Science and Information Technology (BSc. CSIT) in Computer Science

Ambition College, Kathmandu, Bagmati (12/2018)