Gwarko, Lalitpur, Nepal
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SANJAY GOPAL SHRESTHA

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Education	Tribhuvan University	Nov 2016 - June 2021

Bachelors in Information Management(GPA: 2.83)

Relevant Coursework: Software Engineering; Computer Architecture; Data Structure and Algorithms; Artificial Intelligence; Database Foundation; Web Designing; C; Java, JavaScript PHP;

Major Project: Web Application for a Private Clinic for a blood donation campaign

Education	Georgia Tech	August 2025 - Current

Online Master of Science in Computer Science

Enrolled in the highly ranked OMSCS program, focusing on scalable computing systems, AI integration, and advanced software architecture

• Human-Computer Interaction — Grade: A
• Currently studying Video Game Design

Software Engineer	Fusemachines	September 2025 - Current

- Led development of a reusable, multi-functional chat UI component used across AI agents and conversation workflows in Fusemachines AI Studio
- Working on a **plugin-based architecture** enabling multi-purpose extensibility across different use cases
- Built scalable frontend architecture using **React Context API** and custom hooks to ensure clean, maintainable, and reusable code
- Developed core UI components using **TypeScript**, React.js, SCSS, and HTML-to-Image rendering for advanced visualization needs
- Integrated React Query for efficient server-state management and optimized data fetching
- Created a centralized **chart component** to handle all charting and analytics requirements across AI Studio
- Implemented chat history management, response regeneration, and suggestion visualizers to enhance conversational UX
- Collaborated closely with backend and AI teams to align UI behavior with agent workflows and streaming responses
- Core Tools and language: ReactJS, Sass, CSS, HTML, Jira, Postman, TypeScript, HTML-to-Image, React Query, Vite, Context API

Software Engineer	Fusemachines	January 2024 - August 2025

- Created custom logic functions to convert user input from frontend forms into SQL queries, which were processed on the backend to generate various graphs and charts.
- Build an application with Vite for faster and more efficient development builds.
- Developed common components using TanStack Table.
- Utilised **React Query** for efficient data fetching and state management.
- Implemented **drag-and-drop** functionality for table(Columns) headers
- Added pin/unpin features for table columns
- Implemented **Context API** for state management
- Utilised **AWS S3** bucket for scalable and secure file storage.
- Developed pixel-perfect, responsive interfaces using **Next.js** and **Tailwind CSS**, closely matching Figma designs and UI specifications for a freelance clinic website

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- **Storybook** to improve component development and testing workflows, enabling reusable and scalable UI components
- Core Tools and language: ReactJS, Sass, CSS, HTML, Jira, Postman, Restful APIs, JWT tokens, Redux Toolkit, React Query, Vite, Context API, TanStack, Storybook, NextJS, AWS S3 bucket, Tailwind CSS

Software Engineer	Fusemachines	January 2023 - December 2023

- Build a complete client-side login flow and integration.
- Build a Login Session management flow and integration.
- Build a project from scratch in an **NX monorepo**.
- Configure login with **AWS Amplify**.
- Utilised **Redux Toolkit** for efficient state management and cleaner Redux logic
- Core Tools and language: ReactJS, Sass, CSS, HTML, Jira, Postman, Restful APIs, AWS, JWT tokens, ReduxToolkit, NX, NextJS

Software Engineer	Fusemachines	April 2022 - December 2022

- Built a newsfeed for a school management platform used by the admin and parents
- Single-handedly created and managed all Frontend needs for an ML model project.
- Built interactive and scalable frontend components using ReactJS
- Actively collaborated with team members throughout coding and brainstorming sessions
- Integrated backend APIs with frontend components
- Utilised PHP for basic server-side logic and backend API testing while working on the landing page of a legacy product.
- Core Tools and language: ReactJS, Sass, CSS, HTML, PHP, Jira, Postman, RESTful APIs

Software Engineer Trainee	Fusemachines	October 2021 - March 2022

- Built a student feature and a parents' profile for **the school management platform** used by parents
- Built linking/unlinking parent and student profiles for the school management platform with proper notifications
  - accept/decline notification feature
  - accept/decline feature on page
- Actively collaborated with team members throughout coding and brainstorming sessions
- Core Tools and languages: ReactJS, Sass, CSS, HTML, Jira, Postman

Software Engineer Intern	Fusemachines	May 2021 - August 2021

- Built features for HRM leave applications
- Built Todos Web App.
- Built a Blog on Redux
- Core Tools: ReactJS, Redux, Sass, CSS, HTML, Postman, and Prettier.

Projects	Prime College	2016-2021

- Developed a **full-stack web application** for a private lab and clinic to manage its blood donation campaign, using PHP and MySQL for backend logic and data handling.
- Created Tin-Dog – a fun, Tinder-style front-end web app for dogs using HTML, CSS, and JavaScript.
- Built a dynamic product page for a T-shirt shop with interactive filtering and responsive design.
- Designed and coded HTML/CSS website templates for academic and personal experimentation.
- Core Tools: PHP, CSS, HTML, MySQL.

TECHNICAL EXPERIENCE

Projects

Chat Component and database agent for AI Studio   **Sept 2025- Current**

Key Responsibilities:

- Designed and maintained a reusable, multi-purpose chat UI component to support AI agents, multi-turn conversations, and streaming responses
- Implemented chat lifecycle features, including conversation history, message regeneration, suggestions, and response visualization
- Managed global chat and agent state using React Context API and custom hooks for clean, scalable code
- Ensured performance, accessibility, and responsive behavior across chat and agent interfaces
- Established reusable UI patterns and documentation to support future agent and feature expansion
- Built UI components to visualize DB agent outputs such as tables, charts, and analytical summaries
- Separate the existing project into a plugin for plugin-based architecture

Application development for Different AI Agents and AI Studio   **Dec 2024- Aug 2025**

Key Responsibilities:

- Next.js framework to build and optimise **frontend architecture** for multiple AI agent products.
- Served as **Frontend Lead**, generating innovative UI/UX ideas for a technically evolving agent platform.
- Designed and maintained shared component libraries for consistency across projects.
- Created and integrated complex data visualisation charts to display agent behaviour and analytics.
- Built and maintained modular, scalable frontend components.
- Collaborated on the design of the system architecture for an AI agent platform, focusing on scalability, performance, and maintainability.

Application development, AI Studio, Fraud Detection Engine   **Sep 2023- Dec 2024**

Key Responsibilities:

- Using the ReactJS Framework, built two different products' front-end from the ground up in React CLI using Vite.
- Maintained Documentation for each project.
- Communicated with product owners for system planning according to their roadmap.
- Configured JWT tokens for Login.
- Managed Sessions for the Web Application.
- Built and maintained components
- Team Lead for Frontend
- Designed and helped build the system architecture for a scam detection application, ensuring scalability and efficiency.

[**Frontend for** **Clinic Management System**](#)   **Sep 2022- Sep 2023**

Key Responsibilities:

- Using the ReactJS Framework, built the product's front-end from the ground up in an NX monorepo.
- Maintained Documentation with flow charts.
- Communicated with clients for system planning according to their future requirements.
- Configured AWS for Login authentication.
- Managed Sessions for the Web Application.
- Built and maintained components

Frontend for AI(NER, CV and time series) projects   June 2022 - Sep 2022

Key Responsibilities:

- Using the ReactJS Framework, built the product's front-end from the ground up single-handedly.
- Arranged and planned exclusively for the needs of the project.
- Communicated with ML team members, Customer Service, and Product owners to develop solutions.
- Gave design instructions, authored, and also built CSS and SCSS.
- Built components, dashboard and pages for Computer vision, Medical NER, and Time Series.
- Integrated backend APIs with frontend components

School Management System ([Fuse Classroom](#))   Nov 2021 - June 2022

Key Responsibilities:

- Responsible for creating web applications for Parent Portal using the ReactJS Framework.
- Responsible for building the News Feed and Student-Parent related pages from scratch.
- Worked with the product team, was actively involved in design and recommendations for aesthetics.
- Assisted the Designer and other frontend coworkers with project setup and problems they encountered.
- Created new documentation to run the parent portal and edited previous documentation for new recruits in the project and design team.
- Integrated backend APIs with frontend components
- Solved major bugs that occurred in the mono repo.

HRM leave management system   May 2021 - August 2021

Key Responsibilities:

- Integrated backend APIs with frontend components
- Created different pages and modules
- Worked on a team and coordinated with design and backend interns.

Languages and Technologies

- Languages: JavaScript (ES6+), HTML5, CSS3, PHP
- Frameworks: ReactJS, Next.js, NodeJS
- Tools: Git, Postman, AWS Amplify, Storybook, NX Monorepo
- Styling: SCSS, Sass, Bootstrap, MUI

Currently exploring

- C sharp, Node JS
- Researching and testing strategies for optimizing interactions with generative AI models to improve performance, relevance, and usability across various tasks
- Deep Learning Seminar (OMSCS)

Frontend Developer (Contract / Project-based)

Adventist Clinic Better Living Guide – Public Health Content Platform

- Developed a fully responsive web interface for the *Better Living Guide* using Next.js and Tailwind CSS
- Implemented all guide pages, ensuring consistent layout, typography, and component structure
- Adapted desktop layouts to work seamlessly across mobile, tablet, and desktop screen sizes
- Applied Tailwind responsive utilities to maintain usability across different breakpoints
- Ensured UI consistency and cross-device compatibility

Druk Handicraft — Frontend Website (Single page application)

- Designed and delivered free of charge for a family-owned handicraft business
- React.js project built as a frontend-only application
- Implemented responsive UI using HTML and SCSS
- Deployed as a static website with no backend or cloud infrastructure

Precision Dental Clinic (Single page application)

- Built and delivered free of charge as a community contribution for a local dental clinic
- React.js project with HTML and SCSS
- Mock API for flexible content management
- Static deployment with no backend services

Other Projects

My Portfolio Website (Single Page Application)(In Progress)

- Designed and developed as a personal portfolio to showcase projects, skills, and professional experience.
- Built as a frontend-focused React.js application.
- Implemented a responsive, mobile-first UI using HTML, SCSS, and reusable components.
- Structured project and experience data for easy updates and maintenance.

Languages

- **English**: Professional Working Proficiency (Read, Write, Speak) IELTS: 7.5
- **Nepali**: Native
- **Hindi**: Professional Working Proficiency (Read, Write, Speak)
- **Chinese**: Beginner