Kanchan Basnet

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Summary

Backend developer with 2 years of experience building scalable systems and designing robust **REST APIs**, **microservices**, and **RAG-based solutions**. Passionate about **system design**, **architecture**, and **database optimization**, with a strong desire to continuously learn and improve in **backend technologies**. Dedicated to creating efficient, high-performance applications..

Experience

Associate Software Engineer, Amnil Technologies Pvt. Ltd, Nepal   Sept 2023 – Present

- **Generative AI – Retrieval Augmented Generation**

  A real-time AI-powered chat platform that enables users to upload documents and receive context-aware answers based on their content.

  Technologies Used: Node.js, Express.js, LoopBack, PostgreSQL, OpenAI API, LangChain.js, ChromaDB, MongoDB, Redis, BullMQ, Docker

  - **Implemented contextual conversation handling** by researching LangChain.js and enabling the bot to understand follow-up queries while maintaining context across user interactions.
  - **Optimized web URL crawling** by leveraging BullMQ to queue multiple URLs and process them efficiently without mix-ups when ingesting data concurrently.
  - **Developed audio query and response feature**, allowing users to interact in audio mode, recording queries and delivering responses in both text and synthesized audio.
  - **Collaborated with the AI team** to integrate APIs for advanced document processing, including support for GraphRAG and parsing Nepali Preeti font documents.
  - **Contributed to backend enhancements** and integration workflows to ensure system scalability and robustness.

- **NCELL and MBL Customer Facing Chatbots**

  Intent-based NLP chatbots enabling customers to access information and services in real time via conversational interfaces.

  Technologies Used: Botpress, Node.js, TypeScript, Express.js, Socket.io, React, SQLite, PostgreSQL, Redis, Docker

  - **Designed and developed a dedicated analytics module for Ncell**, enabling tracking of key metrics such as daily active users, new vs. returning users, top 10 intents, and most frequently asked questions.
  - **Integrated Ncell APIs** to fetch user details enabling the chatbot to address customer queries with personalized responses and assist in resolving service-related issues.
  - **Implemented a conversational interface** for MBL with a focus on an intuitive, user-friendly chat experience to improve customer engagement and ease of interaction.

- **AI Growth Coach**

  An internal generative AI chatbot designed to assist users with document-based and web-powered querying.

  Technologies Used: Node.js, Express.js, PostgreSQL, React.js

  - **Developed a "What's New" feature**, enabling admins to add descriptions, images, and videos for newly introduced application features via the CMS, which were dynamically displayed on the client side.
  - **Implemented a split-screen view for sources**, enabling users to view supporting content alongside their chatbot conversation for better context and usability.
  - **Refactored** backend codebase and database structure, removing deprecated modules and improving maintainability and system performance.

Education

Bachelor of Science in Computer Science and Information Technology [TU]
2019 – 2024
Padmakanya Multiple Campus | Kathmandu, Nepal
Percentage: 81.46

Technologies

Programming Languages: JavaScript, TypeScript

Libraries/Frameworks: Node.js, Express.js, Socket.io, Langchain, React.js

Databases: MySQL, PostgreSQL, SQLite, Redis, ChromaDB

Tools/Technologies/Platforms: Docker, Git, GitHub, , GitLab, Jenkins, Portainer, REST API,

Activities

- **Digital Marketing Head, PK IT CLUB (2022–2023)**: Led the digital marketing team, managing promotional campaigns and creating engaging content to grow the club's online presence.

- **Vice President, PK IT CLUB (2023–2024)**: Oversaw club operations and led teams to organize technical events and workshops; also delivered an online session on Git and GitHub to empower members with version control skills.