Indra Khanal

Full Stack Developer | BSc.CSIT

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Summary

- **Full Stack Python Developer** with 5+ years of hands-on experience designing, developing, and maintaining scalable web applications and AI-powered systems.
- Strong background in healthcare technology, with extensive experience working on **FHIR R4/R5 APIs**, healthcare data standards, and clinical data workflows.
- Actively building and integrating solutions using **Large Language Models (LLMs)** for use cases such as intelligent search, data summarization, and clinical data exploration.
- Hands-on experience designing and implementing **Retrieval-Augmented Generation (RAG)** pipelines using **LangChain**, **embeddings**, and **vector databases** to improve response accuracy and reduce hallucinations.
- Proficient in end-to-end system development, including backend API design **(Django, FastAPI)**, frontend applications **(Angular, React)**, and seamless system integration.
- Experienced in setting up and maintaining **CI/CD pipelines** and containerized applications using **Docker** for consistent and reliable deployments.
- Knowledgeable in application security practices, including handling **Veracode** security scans, resolving vulnerabilities, and improving code quality to meet security compliance standards.
- Comfortable working in **Agile** and collaborative team environments, contributing to code reviews, architecture discussions, and cross-functional problem solving.
- Experienced in preparing and maintaining clear **technical documentation** for system architecture, APIs, application workflows, and development processes to support long-term maintainability and team onboarding.
- Strong verbal and written **communication skills**, with a proven ability to collaborate effectively with cross-functional teams, product owners, and technical stakeholders.
- Capable of working independently and taking ownership of tasks, while managing time efficiently and meeting deadlines in fast-paced development environments.
- Well-versed in the end-to-end **Software Development Life Cycle** (SDLC), from requirements analysis and design to development, testing, deployment, and ongoing support.
- Skilled at ensuring system compatibility, scalability, and reliability by applying best practices in architecture design, code quality, and performance optimization.
- Comfortable translating business requirements into technical solutions, balancing feasibility, performance, and long-term maintainability.

Technical Skills

UI Web Technologies:	**HTML, HTML 5, XHTML , Node JS, React JS, Angular, PrimeNG, Backbone.js JavaScript, AJAX, JQuery, JSON, JSP, CSS, Tailwind, D3.js, Axios, Bootstrap, Framer- motion, UI Concept Modeling/Wire framing, Figma**
DBMS	**PostgreSQL , MongoDB, MySQL**
Web Frameworks	**Django, Flask, FastAPI, Django Rest Framework**
DevOps & Cloud	**Docker, CI/CD Pipelines, GIT**
Messaging & Streaming Techs	**Redis, RabbitMQ**
Languages	**Python, JavaScript, C, C++, C#**
Methodologies/PM Tools	**Agile, Waterfall, JIRA, Trello**

Professional Experience

Infinite Software Services | Kathmandu, Nepal   FEB 2024 – Present

Role: **FullStack Developer - Software Engineer II**

Responsibilities:

- Working on Health Data Repository (HDR) systems using Smile CDR and **FHIR R4/R5 APIs** to manage and exchange clinical data securely and efficiently.
- Designed, developed, and integrated **FHIR-compliant RESTful APIs** for core healthcare resources such as Patient, Immunization, Procedure, Observation, and CarePlan using .NET.
- Built secure and responsive frontend applications using **Angular**, enabling seamless interaction with .NET backend services.
- Designed and optimized FHIR resource fetching, transformation, and aggregation pipelines to support real-time clinical dashboards and healthcare data visualization.
- Implemented **Retrieval-Augmented Generation (RAG)** workflows to retrieve relevant clinical data from FHIR resources and generate meaningful summaries using **Large Language Models (LLMs)**.
- Leveraged **LangChain** to orchestrate LLM workflows, **prompt templates**, and **context injection** for accurate healthcare data querying and summarization.

- Integrated **vector databases and embeddings** to improve semantic search and reduce hallucinations in AI-generated clinical insights.
- Developed end-to-end health record visualization solutions, including role-based access control, audit-friendly data flows, and integration layers for external FHIR services.
- Collaborated closely with cross-functional teams (backend, frontend, QA, and domain experts) to ensure FHIR data models, APIs, and workflows adhered to healthcare interoperability standards.
- Actively contributed to improving system performance, security, and maintainability in compliance with healthcare data handling best practices.

Environment: **Angular, .NET, FastAPI, OKTA, Microservices Architecture, Git, CI/CD Pipelines, Docker, FHIR, RAG, LangChain, Embeddings, LLMS(gpt-4o), Ollama, FIASS**

Cotiviti Nepal PVT.LTD | Kathmandu, Nepal   05/2023 – 02/2024

Role: **FullStack Developer - Software Engineer II**

Responsibilities:

- Contributed to **US healthcare** analytics projects by developing and maintaining backend services using **Python, Django, RabbitMQ, and Celery**.
- Actively handled and resolved **Veracode security scan** findings, improving application security, code quality, and compliance with industry standards.
- Developed and maintained frontend components using **Backbone.js and Marionette.js**, ensuring modular and maintainable UI architecture.
- Created dynamic and data-driven visualizations using **D3.js** to support analytics and reporting requirements.
- Collaborated closely with cross-functional teams in a highly professional environment, integrating modern tools and contributing across multiple projects.
- Participated in **code reviews, debugging**, and performance optimization to ensure reliable and scalable system behavior.

Environment: **Django, CSS, Backbone.js, Marionette.js, D3.js, Microservices Architecture, Git, CI/CD Pipelines, Docker, Celery, Redis, RabbitMQ**

Smarttech Solution PVT. LTD | Kathmandu, Nepal   03/2021 - 04/2023

Role: **FullStack Developer - Software Engineer II**

Responsibilities:

- Multi-Tenant E-commerce Platform
  - Designed and developed a multi-tenant e-commerce system supporting multiple vendors with isolated data and configurable storefronts.
  - Implemented product management, user authentication, order processing, and role-based access control.
  - Built responsive UI using Bootstrap and AJAX to enable dynamic interactions without full page reloads.
  - Tech Stack: **Python, Django, Bootstrap, AJAX, HTML, CSS, JavaScript, PostgreSQL**

- Smart Water Drinking Assets Management System
  - Developed a system to manage and monitor smart water dispensing assets, including device tracking, usage data, and operational status.
  - Built RESTful APIs using Django REST Framework and integrated a React.js frontend for real-time data visualization and management.
  - Implemented secure authentication and API communication between frontend and backend services.
  - Tech Stack: **Python, Django REST Framework, React.js, PostgreSQL, REST APIs**
- Logistics Management System
  - Designed and implemented a logistics platform to manage shipments, inventory, delivery tracking, and operational workflows.
  - Developed backend services using Django and integrated a React-based frontend for efficient data handling and user experience.
  - Focused on system scalability and maintainability to support growing operational data.
  - Tech Stack: **Python, Django, React.js, PostgreSQL, REST APIs**
- Odoo ERP API Integration
  - Integrated Odoo ERP with custom applications using REST APIs to synchronize products, orders, inventory, and customer data.
  - Ensured reliable data exchange and handled error scenarios to maintain consistency across systems.
  - Tech Stack: **Python, Django, Odoo ERP, REST APIs**
- Sales & Order Management System
  - Built a sales and order management module for e-commerce platforms, handling order lifecycle, payments, and reporting.
  - Optimized backend logic for performance and reliability in high-transaction environments.
  - Tech Stack: **Python, Django, PostgreSQL, REST APIs**

VolgAI Pvt. Ltd. | Kathmandu, Nepal   03/2020 – 01/2021

Role: **Jr. Python Developer**

Responsibilites:

- Implemented Speech-to-Text functionality using Google Speech API to convert audio input into structured, searchable text data.
- Developed a multi-tenant real-time chat application using Django and WebSockets, supporting concurrent users with secure message handling.
- Built an AI-powered chatbot using the RASA framework, including intent classification, entity extraction, and conversational flow design.
- Performed web scraping and data extraction using Scrapy and Selenium to collect structured and unstructured data from dynamic websites.
  - Tech Stack: **Python, Django, WebSockets, RASA, Scrapy, Selenium, Google APIs**