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Top Skills

Application Development
API Development
Machine Learning

Mihir Patel

Senior Python Developer | Python Full Stack Developer
Greater Toronto Area, Canada

Summary

I offer a comprehensive range of services designed to meet diverse clients needs ranging from individuals and small-businesses all the way to large enterprise corporations across various domains, focusing on Python and backend development, TypeScript and frontend development, database management, system development, microservices, progressive web applications, distributed systems, and data analysis. My expertise enables me to deliver high-quality, efficient, and scalable solutions tailored to the specific requirements of each project.

Below is an overview of the services I provide, but they are not limited to the following:

- Build RESTful APIs and GraphQL APIs using FastAPI or Flask python frameworks.
- Build full-stack applications integrating React with FastAPI or Flask backends, or full-stack Next.js applications.
- Design, implement, and optimize relational databases using MySQL, PostgreSQL, and Microsoft SQL Server and NoSQL databases like MongoDB and Redis with scalability.
- Develop high-performance asynchronous or synchronous applications with relevant frameworks.
- Design and develop low-latency, high-scale microservices architecture for enterprise applications.
- Develop type-safe SPAs (Single Page Applications) using React with Vite or Next.js.
- Design and develop responsive, interactive user interfaces using TailwindCSS and other modern CSS frameworks.
- Create comprehensive PWAs (Progressive Web Applications) that integrate frontend (React, Next.js) with backend (FastAPI, Flask) and databases.
- Design and implement high-scale, real-time distributed event-driven systems using tools like Kafka and Webhooks.

Experience

RBC
Software Engineer
June 2023 - May 2024 (1 year)
Toronto, Ontario, Canada

- Developed and maintained a monolithic chatbot application, introducing innovative features and commands to enhance user interaction and functionality.
- Spearheaded the integration of NLP models to automate and streamline chatbot responses, significantly improving response time and accuracy.
- Successfully decomposed a monolithic chatbot application into 3 scalable microservices.
- Implemented Kafka services to facilitate reliable message exchange between multiple frontends and backend services, ensuring seamless communication and data flow.
- Introduced an effective caching mechanism, significantly reducing response times by serving cached responses, optimizing system performance.
- Developed a duplicate check mechanism to prevent processing of identical requests, reducing operational costs and preventing the caching of redundant responses.
- Implemented a locking mechanism for user-triggered events, resolving request conflicts and saving operational costs by preventing multiple instances of bot activation.
- Deployed and tested a fine-tuned model on a local server using OpenLLM and Xinference tools, integrating with the OpenAI API for enhanced chatbot capabilities.
- Built a Retrieval-Augmented Generation (RAG) pipeline using the LangChain framework and Hugging Face to merge LLM knowledge with internal data sources, creating a more versatile chatbot.
- Refactored and enhanced existing Python projects, applying best coding practices to improve code quality, readability, and overall project maintainability.
- Containerized applications using Docker to ensure consistent environments across development, testing, and production.
- Orchestrated containerized applications using Kubernetes, managing deployments, scaling, and ensuring high availability and reliability.
- Automated deployment processes using Kubernetes, streamlining the CI/CD pipeline and reducing deployment times.

CPP Investments | Investissements RPC
Senior Python Developer
July 2022 - May 2023 (11 months)

- Developed complex backend systems for the capital market using Python and related frameworks and libraries like Flask, Django, and SQLAlchemy.
- Designed and implemented RESTful APIs and microservices using Python and integrated them with different frontend and backend systems.
- Designed efficient database schemas and wrote optimized queries for SQL databases like PostgreSQL and SQL Server, as well as NoSQL databases like MongoDB.
- Implemented MVC architecture and set up and managed CI/CD pipelines using tools like Jenkins and CodeBuild, automating build and testing processes.
- Leveraged the Pandas API for data manipulation and storage in MongoDB, while deploying and testing modules in Docker containers and Git.
- Performed cloud database migration from a physical server to Data Fabric, optimized performance using AWS SDK tools like Boto3, and developed RESTful APIs.
- Built SQL queries for CRUD operations and utilized JavaScript and jQuery for client-side validation.
- Developed applications to access JSON and XML from RESTful web services from the consumer side using JavaScript.
- Performed the full workflow of the development life cycle, from code changes to actual development, testing, building pipelines, and deployment on QA servers for performance testing.
- Deployed applications by leveraging tools like AWS servers via ECS and EC2, and IBM's UrbanCode, including different components of microservice architectures.
- Automated workflows using Python and scheduler tools like Jams to generate daily or weekly reports for users.
- Containerized applications using Docker to ensure consistent environments across development, testing, and production.
- Orchestrated containerized applications using Kubernetes, managing deployments, scaling, and ensuring high availability and reliability.
- Automated deployment processes using Kubernetes, streamlining the CI/CD pipeline and reducing deployment times.

CGI
Fullstack Python Developer
March 2021 - July 2022 (1 year 5 months)

- Automated different workflows, which are initiated manually with Python scripts and Unix shell scripting.
- Developed scripts to handle change data capture for processing incremental records between new arrived and existing data in Relational database.
- Managed datasets using Panda data frames and PostgreSQL, queried PostgreSQL database queries by leveraging Python-PostgreSQL connector then parsed it with XML.
- Worked on Terraform to map more complex dependencies and identify network issues and implement - Terraform key features such as Infrastructure as code, Execution plans, Resource Graphs, Change Automation.
- Developed and tested many features for dashboard using Python, React, Bootstrap, CSS, JavaScript and jQuery.
- Experienced in python, Jupyter, Scientific computing stack (NumPy, SciPy, pandas and matplotlib).
- Clean data and processed third party spending data into maneuverable deliverables within specific format with Excel macros.
- Automated GLUE ETL jobs using S3 events and AWS lambda functions and developed data ingestion modules using AWS Step Functions, AWS Glue and Python modules.
- Performed data loading and scheduling jobs using Airflow. Used Pandas as API to put the data as time series and tabular format for manipulation and retrieval of data.
- Generated various capacity planning reports (graphical) using Python packages like NumPy, matplotlib.
- Deployed YAML template to create a stack in AWS which includes services like Amazon EC2, Amazon S3, Amazon RDS, Amazon Elastic Load Balancing, and other AWS supportive services.
- Implemented CI/CD to deploy the Microservices in Kubernetes Cluster in AWS Cloud.
- Utilized Kubernetes and Docker for the runtime environment of the CI/CD system to build, test deploy.

Kroger
Python Developer
August 2019 - February 2021 (1 year 7 months)

- Implemented Data tables to add, delete, update and display patient records and policy information using PyQt.
- Implemented a module to connect and view the status of an Apache Cassandra instance using python.

- Improved the Data Security and generated reports efficiently by caching and reusing data.
- Stored and analyzed client data information using Apache CouchDB (NoSQL) in AWS Linux instance in parallel to RDS MySQL.
- Built end to end CI/CD Pipelines in Jenkins to retrieve code, compile applications, perform tests and push build artifacts to Nexus.
- Used Jenkins for continuous integration and go for continuous delivery/ deployment of the applications.
- Managed and automated all aspects of our AWS infrastructure (compute, storage, network, permissions, cost) using configuration management tools like Cloud Formation and shell scripts.

Accenture
Software Developer
July 2015 - August 2017 (2 years 2 months)

- Developed Views and Templates with Python and using Django's view controller and template language for the Web application. Designed and Developed User Interface using front-end technologies like HTML, CSS, JavaScript, jQuery, AngularJS, Bootstrap and JSON.
- Designed business applications using web technologies like HTML, XHTML, HTTP and CSS based on the W3C standards. Created reusable UI components using React.js.
- Involved in developing the AngularJS MVC framework for the Single Page Application development and developed RESTful API using Django REST framework for backend API calls.
- Designed and managed API system deployment using fast http server and Amazon AWS architecture.
- Used Spark Streaming APIs to perform transformations and actions on the fly for building common learner data models which gets the data from Kafka in Near real time and persist it to Cassandra.

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Education

Sheridan College
Postgraduate Degree, Computer Science · (September 2017 - May 2019)

Gujarat Technological University (GTU)
Bachelor's degree, Electrical and Electronics Engineering · (May 2011 - June 2015)