

Rajat Bakshi

Sr. Software Developer

5.5 years | B.Tech - CSE | Python | Django | Flask | LLM | Generative AI

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Summary

Sr. Software Developer with **5.5+ years** of expertise in **Python, Django, Flask, and AI-driven solutions**, specializing in backend architecture and **Generative AI** technologies (**LLM, RAG, LangChain**). Adept at developing and deploying **8+ scalable, secure, and high-performance** systems for fintech and cybersecurity domains, leveraging **AWS, Docker, and Kubernetes**. Proficient in **microservices, gRPC, data analytics, and machine learning**, with advanced skills in **multithreading, SQL, Jenkins, and CI/CD pipelines**. Currently spearheading backend development initiatives, architecting robust APIs and data-centric platforms.

Work History

Actinium Softwares

August 2022 - Current

Sr. Software Developer

Gurugram

- Led the design and development of a cybersecurity tool focused on securing organizational networks, preventing data leaks, and identifying system breaches.
- Developed the tool to analyze firewalls, routers, switches, and network devices, identifying vulnerabilities through deep configuration inspection and generating detailed security logs.
- Integrated Spark with the National Vulnerability Database (NVD) and U.S. Cybersecurity Vulnerability Database, aligning threat detection with global security standards.
- Implemented a security scoring system and automated remediation recommendations, enabling network engineers to efficiently assess and mitigate security gaps.
- Served as project lead and core programmer, architecting the central processing module using Django framework.
- Built application logic, models, and workflows from the ground up, incorporating data science concepts, custom APIs, and advanced analytics to enhance system intelligence also conducted extensive research and proof-of-concept (POC) efforts to evolve the tool's capabilities and stay ahead of emerging threats.

Technology & tools used : Python, Django, PostgreSQL, Pandas, Git, REST APIs, GenAI, LLM, Langchain, LangGraph, RAG,

Gkay Infovision (Fintech Startup)

Jan 2020 - July 2022

Python Developer

Gurgaon

- Developed multiple live projects for banks, including projects for the Ministry of Corporate Affairs, ITR, and Bank Statement Analysis tools using Flask, and developed APIs for the backend. Collaborated with fintech clients Metta and Oyster to manage the Payment System backend using Django. This involved creating backend API integrations, working on databases, deploying microservices with Python Flask, and utilizing Google RPC to handle the client application for providing personal loans to customers and companies. Worked with both clients, Metta and Oyster, to handle their application backends.
- **Bank Statement Analyzer** : Developed end-to-end BSA tool, entire project architecture including both high-level design and low-level design, a versatile tool capable of accurately recognizing over 50 different bank statement formats and seamlessly integrating into existing systems, ensuring nearly 100% accuracy. This tool, through categorization and statistical analysis of raw data within bank statements, produces valuable financial status information for credit scoring and modeling purposes. Additionally, it excels in fraud detection by analyzing file modification history and verifying the correctness of bank balances.
- **KYC Project-Id Document Recognition** : Developed a fully functional product featuring highly accurate Document Identity Verification technology, enabling the recognition of various ID documents and receipts. This product can seamlessly integrate into identity verification solutions or operate as a standalone tool, effectively addressing the challenges associated with ID document verification and automated data extraction. This project is widely adopted by banks as a standalone product. As

part of the project, developed a Flask backend API capable of extracting data from a variety of scanned documents using Natural Language Processing and OCR Python libraries. These documents include Aadhaar cards, passports, PAN cards, driver's licenses, voter cards, and more.

- **ITR Analyzer** : Developed a custom Income Tax Return (ITR) analyzer specifically tailored for banks. This ITR Analysis tool offers a comprehensive analysis of customer income tax filings for the necessary fiscal years, from 2016 to 2021, covering ITR forms from ITR-1 to ITR-6. It effectively identifies and categorizes the customer's income sources, providing a detailed insight into their financial status.

Technologies & Tools Used : Python, Flask, Pandas, NumPy, Flask and Django REST APIs, SQL, PDF Data Extraction, OCR, etc

Other Projects

Zerodha - Automated Stock Trading Bots

01/2018 - 05/2018

- Initiated and led a self-driven project to automate trading operations in the Indian stock market, transitioning from manual execution to a fully automated system. Utilized Zerodha's Kite Connect API to build robust, real-time integrations with brokerage services, significantly improving trade execution speed and reducing human error.
- **Algorithmic Trading Bots (NSE/BSE)**:
Designed, developed, and deployed automated Python-based trading bots tailored for the Indian equity market. These bots operate autonomously on NSE and BSE, executing trades based on a combination of technical indicators, custom-built screeners, and strategy rules.
- **Technical Indicators & Strategy Development**:
Engineered a comprehensive suite of technical indicators including Simple Moving Average (SMA), Exponential Moving Average (EMA), Relative Strength Index (RSI), Average True Range (ATR), and Guppy Multiple Moving Average. These indicators serve as the foundation for strategy formulation, enabling precise market trend analysis and signal generation for both momentum and mean-reversion strategies.
- **Trading Strategy Backtesting Framework**:
Built a modular backtesting engine to simulate trading strategies on historical market data, enabling risk-free performance evaluation and optimization before live deployment. The framework supports configurable parameters for walk-forward analysis and generates comprehensive performance metrics, including Sharpe ratio, drawdown, and win/loss ratio. This solution helps refine and validate strategies, ensuring they are robust and market-ready.

Technical Skills

- **Languages & Frameworks** : Python, Django, Flask, XSLT, Langchain
- **Advanced Python** : OOPS, Subprocess, Multithreading, Multiprocessing, Async API, OS, REST APIs
- **Data Analytics & Machine Learning** : Pandas, NumPy, Image Processing OCR, SpaCy, NLTK, Matplotlib, LLM, GenAI
- **Web Scraping & Automation Libraries** : BeautifulSoup (bs4), Selenium, Scrapy
- **Networking Libraries** : Netmiko, Paramiko
- **Data Extraction Libraries** : Pytesseract, Google Vision, Tabula.py, PDFMiner, PDFPlumber, PyPDF2
- **Server & Serverless Technologies** : Docker, Kibana, AWS, Kubernetes, Jenkins, CI/CD pipelines, EC2
- **Microservices** : Development using Flask, Django, and gRPC
- **Frontend Development** : HTML, CSS, JavaScript, XML, XSLT
- **Databases** : SQL, PostgreSQL, Elasticsearch, MongoDB
- **API Integration** : Google Maps, National Vulnerability Database (NVD) APIs, Google Vision, and Internal APIs
- **Other Tools** : Kafka, S3, Pytest, Agile/Scrum, GitLab, Jira, Azure, CI/CD tools, unit testing, pytest
- **Artificial Intelligence** : Generative AI, GenAI, LLM, RAG, GPT 4.0, Prompt Engineering, Langchain, OpenAI

Education

B.Tech - Computer Science & Engineering

UIET - University Institute of Engineering (Kurukshetra University, Haryana)

2014 - 2018