

Mehul Saxena

SR. PYTHON SOFTWARE ENGINEER

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Summary

Experienced **Senior Python Software Engineer** with **5.5+ years** of expertise in **backend development, search optimization, and cloud-native architectures**. Strong knowledge of **Elasticsearch, Flask, FastAPI, relational and non-relational databases** with a DevOps mindset. Passionate about designing scalable, high-performance applications and driving **CI/CD automation, clean code practices, and infrastructure as code**. Adept at working in **Agile, collaborative environments** with strong problem-solving skills.

Professional Experience

PENTAIR WATER SOLUTIONS

Senior Python Software Engineer

Oct 2024 - Present | Remote

- Designed and optimized **Elasticsearch-based search engine** for enhanced data retrieval and ranking.
- Developed **FastAPI and Flask-based microservices** for scalable and efficient API interactions.
- Built and maintained **CI/CD pipelines with Jenkins, GitHub Actions, and Terraform**, enabling seamless deployment.
- Deployed and managed applications on **AWS (S3, SNS, SQS, RDS) and Kubernetes** to ensure scalability.
- Implemented **unit, integration, and performance tests** to ensure code quality and reliability.

CONSULTADD INC

Sr. Software Engineer

5 yrs 6 m | Pune, Maharashtra, India

Senior Python Developer @ Independent Health

Jun 2023 - Oct 2024 · 1 yr 5 m

Remote

- Designed and implemented **Elasticsearch-powered search features** for fast and efficient data retrieval.
- Developed **APIs using Flask and FastAPI**, ensuring **RESTful service design** and performance optimization.
- Integrated **AWS managed services (S3, RDS, Lambda, SNS, SQS)** into backend systems.
- Implemented **CI/CD best practices**, enabling faster and more reliable software deployments.

Software Engineer @ Charter Communications

Jan 2022 - Jun 2023 · 1 yr 6 m

On-site

- Developed and optimized **search-related functionalities** using **Elasticsearch and PostgreSQL**.
- Designed scalable **Python microservices** with **API-first development**.
- Implemented **AWS infrastructure automation using Terraform**, reducing manual interventions.

Backend Engineer @ Library of Congress

Jan 2021 - Jan 2022 · 1 yr 1 m

Remote

- Built and maintained **backend APIs in Flask**, improving system efficiency by **30%**.
- Integrated **Elasticsearch and FastAPI** to enhance search accuracy and response times.

Key Projects

1. Search Engine Optimization for E-Commerce (Pentair Water Solutions)

- Designed and optimized **Elasticsearch queries**, improving **search accuracy by 50%**.
- Implemented **custom ranking algorithms** to enhance **product discoverability**.
- Built **Flask-based API gateways** to interface with search and catalog services.

2. CI/CD Automation & Infrastructure as Code (Independent Health)

- Developed **Jenkins-based CI/CD pipelines** for seamless **application testing and deployment**.
- Automated **Terraform-based AWS deployments**, reducing infrastructure provisioning time by **40%**.

3. Microservices Development for Enterprise APIs (Charter Communications)

- Built **RESTful APIs using FastAPI and Flask**, ensuring **high performance and scalability**.
- Integrated **React-based frontend components** for search visualization and analytics.

4. Data Pipelines & ETL Workflows (Library of Congress)

- Developed **Python-based ETL pipelines** to process and index large datasets in **Elasticsearch**.
 - Implemented **data enrichment techniques**, improving data accuracy and usability.
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Education

Bachelor of Technology (B.Tech) – Computer Science | 2016-2020

Certifications

- **AWS Certified Solutions Architect – Professional** (Valid till 2027)
- **AWS Certified Solutions Architect – Associate** (Valid till 2026)
- **Red Hat Certified System Administrator (RHCSA)**

Technical Skills

- **Programming Languages:** Python (Flask, FastAPI), JavaScript (React)
 - **Search Technologies:** Elasticsearch, Kibana, Grafana
 - **Databases:** PostgreSQL, Oracle, DynamoDB, Redis
 - **CI/CD & Automation:** Jenkins, GitHub Actions, Terraform, AWS CLI
 - **DevOps & Cloud Infrastructure:** Docker, Kubernetes, AWS (S3, SNS, SQS, RDS), Terraform
 - **Software Development Best Practices:** Test-Driven Development (TDD), Microservices, Clean Code, Design Patterns
 - **Frontend Development:** React, JavaScript (basic understanding)
 - **Monitoring & Observability:** ELK Stack, Sensu, Prometheus, Grafana
 - **Agile & Collaboration:** Scrum, Pair Programming, Peer Reviews
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