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.

**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