

# Usama Tahir

Senior Software Engineer

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## PROFILE

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### Senior Software Engineer | Python Backend Developer | REST API Specialist

Skilled in building scalable backend systems and RESTful APIs using Django, Flask, and FastAPI. Experienced in designing high-performance architectures, optimizing databases, and developing secure, maintainable services in microservices environments.

## PROFESSIONAL EXPERIENCE

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### Senior Software Engineer

FiveRivers Technologies

11/2020 – Present  
Lahore, Pakistan

Worked as a REST API developer for critical machine learning and data infrastructure projects, delivering scalable backend services for data ingestion, preparation, cataloging, and metadata management.

#### Current Project:

- Currently working on a Data Engineering–focused ETL project, enhancing its backend architecture to efficiently ingest data from various sources, apply necessary transformations, and deliver to multiple destinations, ensuring accuracy and performance across the pipeline.
- Collaborating on the frontend using React.js, implementing dynamic UI components, integrating RESTful APIs, and ensuring a responsive and consistent user experience across devices.
- Designing and maintaining scalable, high-performance backend services using a microservices architecture, built with Python frameworks such as Django, Flask, and FastAPI.

A few notable projects include:

- **Ballogy:**
  - A mobile application for basketball coaches and players with features including workout and task and workouts submissions, scoring, messaging, announcements, and profile handling.
- **DataPrep:**
  - Core service for exploring, cleaning, and preparing structured and unstructured data for analysis, reporting, and machine learning in AI projects.
- **Dataset-Catalog:**
  - Core service managing information on datasets used by different services and ingested at storage.
- **ML-Meta Store:**
  - Core service tracking activities conducted by data scientists.
- **Foundation Data Ingest:**
  - Desktop utility offering connectors to transfer data between services.
- **Hermes:**
  - Developed a core service to ingest high-volume time series data from sensors, process it through data cleaning pipelines, and run ML models for fault detection in oil & gas industries and weather prediction in environmental sectors.

#### Achievement Highlights:

Joined FiveRivers as a **Software Engineer** and promoted to **Senior Software Engineer**.

Being Senior Software Engineer involves the following Responsibilities:

- Developing and maintaining scalable RESTful APIs using Django, Flask, and FastAPI within a microservices-based architecture, ensuring high performance and security standards.

- Designing and optimizing PostgreSQL database schemas with advanced queries, indexing strategies, and data migrations to support distributed services.
- Collaborating with cross-functional teams to integrate third-party services and internal tools across microservices, enhancing platform capabilities and user experience.
- Played a key role in scaling backend infrastructure to efficiently handle increased user traffic and inter-service data throughput.
- Participating in backend architecture planning within a modular microservices framework, improving code quality through refactoring, documentation, and unit testing.
- Contributing to CI/CD pipeline enhancements, implemented API versioning strategies, and integrated system monitoring tools to maintain reliability and uptime across services.
- Working closely with the frontend team, integrating APIs and building key user-facing features using React.js, ensuring consistent functionality and responsive design.

### **Research Officer**

*Al Khawarizmi Institute Of Computer Science, UET Lahore*

Worked as a backend developer for high-impact big data projects, delivering scalable services for data crawling, visualization, ad serving, search functionality, and surveillance systems while ensuring top-tier performance and security standards.

A few notable projects include:

- **Humkinar Urdu Search Engine:**
  - Humkinar is an online platform providing real-time search and discovery of comprehensive Urdu-language content. I worked on developing scalable Python crawlers to mine structured and unstructured Urdu content (blogs, news sites, articles, books), indexed it in Apache Solr for real-time search, and integrated Redis for caching recent news and articles on the Humkinar portal.
- **Humkinar Adserver:**
  - Developed a real-time ad creation, costing, and display system integrated into the Humkinar Urdu search engine.
- **Humkinar Search Service:**
  - Developed a real-time search service APIs for Humkinar and a payment plan with request limiting.
- **Epidemic Surveillance System:**
  - Built real-time Twitter ingestion pipelines with the Twitter API to collect and classify large-scale health-related tweets via an epidemic classifier model, and developed backend APIs and database schemas to power a dashboard for regional outbreak detection.
- **Political Sentiment Analysis System:**
  - Developed a real-time Twitter scraping service using Twitter APIs to gather large-scale political tweets, processed them through a sentiment analysis model to assess party sentiment, and visualized trends by region on a dashboard with positive/negative reviews. Led backend development, wrote APIs, and managed databases for the service.

My roles and responsibilities includes:

- Played a key role in scaling backend infrastructure to handle increased user traffic and data throughput efficiently.
- Participated in backend architecture planning and code quality improvements, including refactoring, documentation, and unit testing.
- Contributed to CI/CD pipeline enhancements, API versioning strategy, and system monitoring tools to ensure system reliability and uptime.

## **EDUCATION**

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### **B.Sc. Computer Science (Honours)**

*University of Engineering and Technology, Lahore*

I secured CGPA of **2.95** out of **4.0**

06/2017 – 10/2020

Lahore, Pakistan

### **Intermediate (Fsc. Pre-Engineering)**

*Govt. Islamic College Civil Lines, Lahore*

Obtained **907/1100** marks securing **82.45%**

11/2013 – 06/2017

Lahore, Pakistan

07/2011 – 08/2013

Lahore, Pakistan

## Matriculation

Govt. Saint Francis High School, New Anarkali  
Obtained **923/1050** marks securing **87.9%**

05/2009 – 07/2011

Lahore, Pakistan

## SKILLS

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Python		Django	
Flask		FastAPI	
React JS		PostgreSQL	
AWS EC2		AWS RDS	
Data Mining		WEB Scraping	
Linux OS		REST APIs	
Selenium Automation		Microservices	

## LANGUAGES

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English                             ● ● ● ● ●      Urdu                             ● ● ● ● ●

IELTS 7.0 overall

Punjabi                             ● ● ● ● ●

## EXPERTISE

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- Teamwork
- Effective Communication
- Problem Solving
- Time Management
- Critical Thinking
- Leadership

## TOOLS & TECH

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- JIRA
- Trello
- Pycharm
- Postman
- Docker
- GIT
- Clickup
- Asana
- VS Code
- Insomnia
- AWS
- Jenkins

## CERTIFICATES

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**Python (Basic)**  
HackerRank 2020

**REST API (Intermediate)**  
HackerRank 2020