Muhammad Hamza Khalid

Software Engineer

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🌐 Portfolio | ⓞ Github | 🔗 LinkedIn

Objective

Emerging Python Developer with **2 years** of hands-on experience in building scalable web applications and AI-driven solutions that address real-world challenges. Proficient in developing high-quality APIs in **Django** and integrating Large Language Models (**LLMs**) to enhance application capabilities. I focus on delivering high-quality code and optimizing system performance. A strong team player with effective communication skills, eager to contribute innovative solutions that combine traditional development with cutting-edge AI technologies.

Professional Experience

Cogent Labs *(Backend Developer)*   May 2024 - Present

- **GenAI-Powered Applications:** Developed a **real-time audio recording app** to capture doctor-patient conversations and summarize Audio transcripts using **OpenAI** and other LLMs. Achieved accuracy of **88%**.

- **External Services APIs:** Developed External Service APIs integrating with systems like **RabbitMQ** for message queuing and **Polygon Webhooks** for real-time data exchange when the market opens. Designed using the Django Framework with Class-Based Views for modular and maintainable code.

- **Database Load Reduction:** Reduced **65% database load** using multiple strategies, including caching and implementing a **read-replica database**.

- **Performance Optimization:** Optimized performance by utilizing **TimescaleDB**, caching, and raw SQL queries, reducing query response time by **80%**.

- **Cross-Team Collaboration:** Worked with cross-functional teams for requirement gathering, client communication, and design.

- **Clean Code:** Revamped utilities to meet **Python PEP 8** standards. Prioritized writing clean, maintainable, and efficient code to ensure high performance and reliability.

- **Scalability:** Designed and maintained scalable applications, serving over **10,000+** real-time users.

- **Tech Stack: Python, Django, RabbitMQ, PostgreSQL TimescaleDB, Locust, Docker**.

Apex Space *(Junior Software Engineer)*   June 2023 - Feb 2024

- **Web Application Development:** Developed web pages for diverse web applications, ensuring seamless functionality and user experience.

- **E-commerce and Business Platform Expertise:** Contributed to the development of E-commerce and business platform websites, focusing on performance and scalability.

- **Backend Design and Implementation:** Specialized in creating responsive back-end designs and developing scalable back-end systems to meet dynamic user needs.

- **Tech Stack: Python, Django, PostgreSQL, React**.

Netsol *(Cyber Security Intern)*   Aug 2023 - Oct 2023

- Collaborated on reviewing and refining **organizational security protocols**, ensuring compliance with industry standards.

- Developed and implemented **data loss prevention strategies** and enhanced security documentation.

Projects

DECORA | Python Django, ReactXR   *Final Year Project*

Developed an online furniture and home décor webstore with augmented reality (AR) technology. Enabled customers to visualize and interact with virtual 3D furniture models in their spaces through mobile cameras to improve the shopping experience.

Technical Skills

Languages: Python, Django, SQL, C++
Tools/Technologies: AWS, RabbitMQ, MySQL, PostgreSQL TimescaleDB, Docker, Locust, GitHub, LaTeX, PyCharm, Visual Studio.

Leadership Experience

President, ACM UET-NC   Sep 2023 – May 2024

- Led the ACM student chapter, organizing events, workshops, and competitions for student development.

- Managed and mentored teams, focusing on personal and professional growth.

General Secretary, TEDx UET-NC   Oct 2022 – Jun 2023

- Managed event planning, coordination, and speaker communications for TEDx events.

- Worked closely with team members to ensure the success of the event.

- Actively participated in community development programs and youth initiatives.

Education

Extracurricular Activities

UET Lahore *2020 - 2024*
Bachelors of Computer Science

- Hackathon
- Traveler
- Community Service Volunteer