Aanis Noor

(C++ Software Developer)

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About

A versatile software developer who believes that writing code is a form of art which can give life to hardware. I understand that human beings work a little analytical and a little emotional, and I thrive to keep a healthy balance between the two with myself as well as other selves. I have keen interest in ideating, designing, implementing, and iterating large scale software with experience in multimedia streaming server software and its integration with another backend as the first entity in the business logic pipeline. Also gained hands-on experience in devops practices and on-premise server management. I like to communicate with people, to learn about ancient wisdom, and I like books on psychology. I sing as well. :)

Professional Experience

Staqu Technologies, Gurugram • Software Developer (Backend)   *(07/2022) - Present*

*(1) **Vision** (C++, Python)*

1. C++ streaming server with a Controller-Worker-Listener model
2. Support for HTTP REST APIs
3. Raw implementation of the RTSP protocol for ingesting realtime cameras and simulated streams
4. Raw implementation of the RTP network payload protocol
5. Raw implementation of the SDP format protocol
6. Raw implementation of a shared memory backed buffer mechanism for H264, AAC, ALAW, µLAW codecs
7. Raw implementation of the HLS protocol for repackaging buffered media
8. Raw implementation of the TS container format for error-resilient live streaming
9. Raw implementation of the CMAF container format for low-footprint file recording
10. Study the intricacies of low-latency streaming solution WebRTC
11. Implementation of real time audio conversion from ALAW/µLAW to AAC using FAAC
12. Implementation of extension APIs written using Python FastAPI for retrieving audio/video recordings
13. Implemented good C++ styling using Google Style Sheet
14. Integrated an efficient DevOps pipeline using Docker, Jenkins, and Kubernetes

*(2) **DevOps and Code Security** (k8s, docker, bash, rke2, ansible, python, FastAPI, Nginx, Rancher, CryptoPP)*

1. Automated on-premise product deployments using Bash, Docker, Kubernetes, and Ansible
2. Optimised and secured Docker builds by following official documentation
3. Developed tools for Python code-obfuscation
4. Developed a hardware based licensing mechanism for Vision using cryptography

(3) __Jarvis__ (Python, Django ORM, Django DRF, PostgreSQL, MySQL, TimescaleDB)

1. Used TimeScale DB for data for materialisation and faster queries in Django based product called Jarvis
2. Integrated Vision with Jarvis for stream management
3. Integrated several multimedia processing tools using ffmpeg

(4) __DeepStream AI Pipeline for Edge devices__ (Gstreamer, Gst-python, DeepStream)

1. Harnessed NVIDIAs DeepStream plugins to develop GStreamer AI pipelines
2. Developed logic for Face Recognition, Footfall, and Automatic Number Plate Recognition
3. Fine tuned models to better fit real life data
4. Optimised the whole pipeline to achieve high accuracy at lower computer for edge devices

Education

BITS Pilani, WILP • MTech Software Engineering	*(Expected) 2025*
KIET Group of Institutions, Ghaziabad • BTech Information Technology	*2022*
Chinmaya Vidyalaya, Unchahar • CBSE • 12th • 83.2%	*2017*
Chinmaya Vidyalaya, Unchahar • CBSE • 10th • 9.4 CGPA	*2015*

Technical Skills

Programming Languages: C++, Python

Tools/Frameworks/Concepts: Django (DRF, ORM), FastAPI, Flask, Bash, Docker, Kubernetes, Jenkins, MySQL, PostgreSQL, Pandas, Numpy, Redis, Celery, Ansible, Systemd, Supervisord, ffmpeg, Nginx, Markdown, Networking, RTSP, RTMP, HLS, TS, MP4, H264, H265, AAC, ffmpeg, GStreamer, DeepStream

Recognitions

● Rewarded for Dedication and Commitment by Staqu Technologies	2023
● Rewarded for Team Unity Ambassador by Staqu Technologies	2024
● 76/80 - CEFR C1 - Versant 4 Skills Essential Test in English	2021