SADIQ MOHAMMAD

@ sadiq.build@gmail.com +91 7416414823 md-sadiq-md MdSadiqMd

WORK EXPERIENCE

Dognosis - R&D Engineer

October 2025 - Present Bangalore, India

- Solving **cancer prediction** by leveraging dogs olfactory capabilities, delivering accurate diagnostics from video-based sniff analysis
- Built **multi-stage video processing pipeline** YOLO-based dog tracking and ROI detection, centroid interpolation at 60 FPS, and stabilized 256x256 follow-cam crop generation via FFmpeg for FERAL (V-JEPA 2) model inference
- Trained and deployed **V3 Fusion LSTM** architecture combining kinematic time-series (head position, velocity, acceleration) with scalar context features (sniff duration, session progress, tortuosity)
- Managed **Raspberry Pi camera fleet** for automated daily session capture by debugging streaming protocols, service orchestration, and multi-network connectivity for reliable field deployment
- Managed cloud and on-prem infrastructure by automated data ingestion, processing, and backup workflows across distributed storage and compute environments
- Built **multi-modal sensor synchronization** matching high-frequency biosignals with video timelines, enabling time-aligned feature extraction for model training pipelines
- Overall worked with Python, OpenCV, YOLO, Airflow, TimescaleDB, PostgreSQL, Linux, FFmpeg, Docker, AWS, Rust

Scale.jobs - Founding Team Engineer

September 2024 - October 2025 Hyderabad, India

- **Only developer** in the company **besides the CTO**
- Wrote AI content generation pipelines using LangChain and OpenAI SDK, while integrating Langfuse for prompt versioning, tracing, evaluation, and production monitoring
- Built **AI Interviewer** that conducted conversational mock interviews different for each and every job role, generated personalized feedback
- Optimized frontend performance using WebAssembly and TanStack, significantly improving rendering speed and overall user experience for large interactive applications
- Overall worked with TypeScript, tRPC, Hono, Prisma, PostgreSQL, QStash, LangChain, Langfuse, OpenAI SDK, TanStack, WebAssembly (WASM), and PostHog

HCL - Tech Intern

June - September 2024 Remote

- Worked in **Resume Application Tracking System (ATS)** team
- Applied **TF-IDF** for keyword density analysis and relevance scoring
- Built OCR-based document processing and text extraction pipelines
- Overall worked with Python, TensorFlow, Scikit-Learn, NLP, TF-IDF, OCR, and document processing

SKILLS

Languages & Frameworks: Golang, Typescript, Next.js, Tanstack
Databases: PostgreSQL, Redis, Time-Series Databases
Devops: Docker, Kubernetes, Terraform, CI/CD, AWS
Additional Skills: RESTful APIs, gRPC, tRPC, Websockets, webRTC, FFmpeg, RabbitMQ, Kafka, Nix, 3D Guassian Splatting

PROJECTS

Firemig

- Migrating agent state across Firecracker VMs between runs
- Full-VM migration on Firecracker's raw snapshot/restore API: snapshot memory + VM state + writable disk, restore into a fresh Firecracker process, fence and kill the source same boot ID, same PID, 1.61 GB moved, 0 client reconnects
- Kept the agent's stream open across cutover with an Elixir/OTP Thousand Island gateway swapping only its internal AF_VSOCK connection; Phoenix control plane with SQLite WAL phases, idempotent retries, Redpanda ordered queue replaying in-flight commands exactly once
- Cut migration 24.831s to 2.222s via atomic hard links instead of artifact transfer (resumable SHA-256 for separate hosts); worker owns Firecracker API sockets, TAP devices, per-sandbox mount/net namespaces
- Technologies: TypeScript, Elixir, Firecracker, Terraform, GCP

AV-Chaos Monkey

- Chaos Monkey but for Audio/Video Testing(Chaos engineering framework)
- Simulated 1,500 participants (150/pod) on 10 K8s StatefulSet pods via deterministic partitioning, generating H.264 (FU-A)/Opus RTP from FFmpeg with TURN NAT traversal
- Injected jitter (Box-Muller), packet loss and bitrate variance; scored ITU-T G.107 MOS with Prometheus P99 jitter, loss and rolling bitrate across 3,000+ RTP streams
- Built reproducible multi-arch (x86_64, ARM64) Nix binaries for Linux/macOS; H.264 Annex B and OGG parsing with SRTP/DTLS WebRTC, raw UDP delivery and K8s-aware discovery
- Technologies: Go, Pion WebRTC, FFmpeg, Kubernetes, Docker, Nix, Prometheus, Grafana

Snipzy Worker

- Serverless Video Processing Service on Lambda
- Real-time clipping and streaming from video platforms via yt-dlp extraction and FFmpeg processing
- Packaged static FFmpeg (johnvansickle) and yt-dlp as S3-hosted Lambda layers mounted at /opt, shipping a statically linked Go binary in a Docker image deployed via IAM-provisioned Lambda
- Zero-copy streaming via chunked transfer encoding: MP4 chunks reach the frontend with no intermediate S3 write or memory buffering
- Technologies: Go, FFmpeg, yt-dlp, Docker, AWS Lambda, S3, IAM, VPC, CloudWatch

EDUCATION

Bachelor's of Technology (B.Tech) - Electronics and Communication Engineering

Velagapudi Ramakrishna Siddhartha Engineering College

2021-2025 **CGPA**: 8.00