

NAIMISH SINGH

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EDUCATION

- **Dr. A.P.J. Abdul Kalam Technical University** Lucknow, U.P., India
B.Tech. - Computer Science & Engineering (AI & ML) ; CGPA: 8.2 2024 – 2028

PROJECTS

- **SWADHIKAAR** [GitHub](#) [Live](#) Mar 2026 – Present
 - Engineered an **autonomous multilingual voice agent** automating 8-stage OPD intake and follow-ups across 5+ Indic languages via Twilio SIP and WebRTC, cutting clinical overhead by **~60%**.
 - Architected a **sub-500ms voice pipeline** with Silero VAD barge-in, & semantic turn detection and a **3-tier LLM fallback**, bypassing TPM limits to maintain **99.9% call continuity**.
 - Implemented **autonomous tool-calling** for EHR vitals logging and care transitions, paired with a **deterministic regex safety net** enabling **<1s emergency escalations** for acute symptoms.
- **AURAG** [GitHub](#) [Live](#) July 2026 – Present
 - Built a **hybrid GraphRAG engine** fusing **Neo4j** and **Qdrant** vector search, achieving a **35% precision lift** over dense-only baselines on multi-hop industrial causality queries.
 - Orchestrated a **LangGraph** multi-agent system routing across 4 specialized domain agents with **>95% accuracy** and confidence-based fallback.
 - Enforced sentence-level citation binding with page-anchor provenance, integrating automated **Ragas CI evaluation gates** to guarantee **>0.85 faithfulness** across 50+ benchmark scenarios.
- **TRUTHY** [GitHub](#) [Live](#) Jan 2026 – Feb 2026
 - Architected a **multimodal deepfake forensic suite** across Voice, Image, and Video, fusing **WavLM** speech transformers and **Vision Transformers (ViT)** with biophysical invariants.
 - Pioneered an **optical rPPG & phonetic kinematic pipeline**, extracting sub-visual facial cardiac pulse (BVP) and lip phoneme-viseme sync violations to expose diffusion and GAN face re-enactments.
 - Engineered a **13-signal ensemble** with bi-spectral Fourier phase coherence and TruFor heatmaps, deployed via **Dockerized FastAPI** delivering real-time SSE explainability in **<2s**.

EXPERIENCE

- **BitCrafts Studio** Jun 2025 – Jun 2026
Freelance Full-Stack AI Developer (Remote)
 - Accelerated **healthcare A/R claim verification** by **>70%** by architecting a HIPAA-compliant voice agent with **LiveKit**, **Deepgram STT**, and **Murf Falcon TTS**, automating payer portal checks via LLM tool-calling.
 - Achieved **real-time ASL fingerspelling** at **>240 FPS** and **<4.2ms CPU latency** by engineering an edge ML pipeline with **MediaPipe 3D landmarks**, lightweight **Deep MLP**, and temporal debouncing.
 - Eliminated manual resume screening latency by building an **in-browser ATS audit platform**, parsing PDF AST structures client-side to generate instant section scoring across **20+ ATS evaluation vectors**.

ACHIEVEMENTS

- **HackMatrix 2.0 (IIT Patna × Jilo Health, 2026)** – Voice AI Healthcare Platform 1st Place (Winner)
- **10 Days of AI Voice Agents (VoiceForBharat, 2026)** – Built Careva, Multilingual Helpline 2nd Place (Winner)
- **GenAI Hackathon (GDG DevFest Lucknow, 2025)** – Guardial LLM Defence Layer 1st Place (Winner)
- **TechExpo, Techniche (IIT Guwahati, 2026)** – Shortlisted among top pan-India teams National Finalist
- **Inter-Institutional Idea Challenge (BIET Lucknow, 2025)** – IIICH Hackathon 1st Runner-Up

TECHNICAL SKILLS

- **Languages:** Python, JavaScript, TypeScript, SQL
- **Agentic AI & LLM Frameworks:** LangChain, LangGraph, LlamaIndex, LiveKit Agents SDK, PyTorch
- **RAG & Databases:** RAG(Agentic, Adaptive, Graph, Hybrid), Neo4j, Chroma, Pinecone, Qdrant, Supabase(pgvector)
- **LLMOps:** LangSmith, Langfuse, NeMo Guardrails, Guardrails AI, Portkey, RAGAS, DeepEval
- **Backend & APIs:** FastAPI, Pydantic, SQLAlchemy, PostgreSQL, DynamoDB, Redis
- **Cloud & DevOps:** GitHub Actions, Docker, AWS(S3, EC2, Bedrock)