Lokesh Gile

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Software developer experienced in building **backend systems**, **AI-driven applications**, and **real-time signal processing pipelines**. Strong foundation in **data structures and algorithms** with 250+ LeetCode problems solved and competitive programming experience.

Education

B.Tech in Computer Science and Engineering 2024 – 2028
Sardar Patel Institute of Technology (SPIT), Mumbai GPA: 8.84

Experience

USCAPES — Lead Software Engineer (Intern) Feb 2026 – Present

- Developed real-time audio processing pipelines for AI-powered wearable assistive technology using microphone arrays and spatial audio processing.
- Implemented direction-of-arrival estimation using SRP-PHAT with pyroomacoustics for spatial sound localization.
- Built beamforming pipelines using STFT/ISTFT for directional audio enhancement.
- Integrated ReSpeaker microphone arrays for multi-channel spatial audio capture.
- Collaborated with hardware and research teams to design and test signal processing workflows for real-time inference.

Skillzo.AI — Technical Contributor Dec 2025 – Present

- Contributed to backend development for an AI-powered sports analytics platform.
- Built and integrated REST APIs and implemented payment infrastructure using Stripe.
- Participated in system integration and debugging across backend services.

CSI-SPIT — Events Lead Sep 2024 – Present

- Managed multiple national-level technical events organized by CSI-SPIT.
- Led coordination for **SPIT Hackathon**, hosting 600+ participants from IITs, NITs and other institutes.

Projects

Neuro-Controlled Directional Hearing Aid

- Assistive hearing system detecting sound direction and amplifying the target audio source.
- Implemented SRP-PHAT direction-of-arrival estimation using pyroomacoustics.
- Built beamforming pipelines using STFT/ISTFT for real-time spatial audio processing.
- Integrated ReSpeaker microphone arrays for spatial audio capture.

KrushiUnnati — Smart Agriculture Ecosystem

- IoT-based agricultural monitoring system using soil moisture, humidity, and temperature sensors.
- Designed automated irrigation decision logic and real-time monitoring dashboard.

Technical Skills

Competitive Programming: Codeforces 1095 Profile | LeetCode 250+ problems (Java) Profile
Languages: Java | Python | JavaScript | C | C++ | SQL
Backend: Node.js | Express.js | FastAPI | REST APIs | JWT | OAuth | bcrypt | Stripe
Databases: MongoDB | MySQL | PostgreSQL | PostGIS | Redis
Frontend: React.js | HTML5 | CSS3 | TailwindCSS | WebGL
AI / Signal Processing: NumPy | Pandas | Audio Processing | Beamforming | Direction-of-Arrival | RNN
Hardware: ReSpeaker Microphone Array | EEG Sensor Interfaces | Real-time Audio Streaming
Tools: Git | GitHub | Postman | Google Colab

Achievements

2× National Hackathon Winner
1× Code-A-Thon Top 8 Finalist
IAT Rank Holder — Invited by IISER Kolkata
3rd Place — Blockchain Hackathon, IIT Hyderabad