

# MALLIGA SOZHAN

– Software Engineer

Email: [sozhanmalliga2425@gmail.com](mailto:sozhanmalliga2425@gmail.com) | Phone: 9790750352 | Location: Virudhachalam, Tamil Nadu

LinkedIn: [linkedin.com/in/malligasozhan/](https://linkedin.com/in/malligasozhan/) | GitHub: [github.com/Malliga2425](https://github.com/Malliga2425)

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## SUMMARY

Software Engineer with **3+ years of experience** in Python development, backend engineering, and AI-driven voice/face authentication systems. Skilled in **ASR model development using NVIDIA NeMo**, API integration, SQL optimization, and building scalable backend applications using Flask. Strong collaborator with hands-on experience in speech processing, biometric authentication, and delivering client-focused solutions.

## TECHNICAL SKILLS

- **Programming & Frameworks :** python , Flask ,Django.
- **AI/ML & Speech Technologies:** ASR , Speech Preprocessing , Model evaluation & fine-tuning .
- **Web Technologies:** HTML ,CSS, Javascript, Bootstrap.
- **Database:** MySQL, MS SQL Server
- **Tools:** Git , Github , REST APIs, Postman, IIS Server
- **Operating System :** Windows , Linux

## WORK EXPERIENCE

KAIZEN SECURE VOIZ PRIVATE LIMITED | Chennai, TN

Nov 2022 – Present (3+ Years)

### Advanced ASR Development

- Developed and fine-tuned **ASR models using NVIDIA NeMo**, improving transcription accuracy across multilingual datasets.
- Implemented speech preprocessing pipelines including **feature extraction and noise reduction**.
- Integrated NeMo ASR pipelines into existing backend systems for **real-time voice authentication**.
- Worked closely with ML teams to test, validate, and deploy ASR models into production.
- Optimized inference speed and accuracy for large-scale speaker verification systems.

### Voice & Face Biometric System Development

- Built and maintained **Voice Biometric Authentication** platforms using Python and ML techniques.
- Integrated **Voice + Face Authentication APIs** into Flask-based backend modules.
- Managed speaker datasets for training, evaluation, and testing.

### Backend Engineering & API Development

- Designed secure backend workflows for authentication and user management.
- Improved SQL performance for high-volume processing.
- Implemented REST API endpoints and optimized server response times.

### Web Application Development

- Developed responsive UI screens using HTML, CSS, JavaScript, and Bootstrap.
- Integrated frontend with backend APIs for authentication, dashboards, and admin controls.

### Testing, Deployment & Documentation

- Performed functional testing, debugging, and deployment support.
- Created detailed API documentation and technical manuals for long-term maintenance.

| Monitored and validated daily production reports.

- Implemented **Toyota Production System (TPS)** practices for workflow optimization.
- Utilized **7QC tools** to analyze and resolve quality deviations.
- Prepared SOPs to streamline operational processes.

## **EDUCATION**

### **Bachelor of Computer Applications (BCA)**

Dhanalakshmi Srinivasan College of Arts & Science for Women

2017 – 2020

**CGPA: 8.0/10**

## **CERTIFICATION**

- Junior Full Stack Java Developer – AISECT Ltd.

## **ACHIEVEMENTS**

- Awarded **Best Team Performer of the Year**, Kaizen Secure Voiz Pvt. Ltd.

## **LANGUAGE**

- Tamil
- English

## **DECLARATION**

- I hereby declare that the information furnished above is true and correct to the best of my knowledge and belief.