Mohammad Saquib Daiyan

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EDUCATION

B.Tech in Computer Science (Specialization in IoT and AI/ML)	2022 - 2026 (Expected)
SRMIST, Chennai	*Overall CGPA: 9.15*
Class XII (CBSE Board)	Passed: 2021
	Percentage: 85.6%
Class X (ICSE Board)	Passed: 2019
	Percentage: 84.8%

SUMMARY

Software Development Engineer and Machine Learning enthusiast with diverse experience in system development, ML, deep learning, and web technologies. Currently working on innovative browser-based virtualization solutions at Kalvium. Contributing to research projects at IISER Bhopal and IIT Kanpur, focusing on signal analysis, medical image classification, and healthcare AI. Published open-source library for biomedical signal processing and developing innovative solutions in regional language AI with upcoming IEEE publication.

EXPERIENCE

Software Development Engineer (SDE) — May 2025 - Present
Kalvium — *Bengaluru*

- Working on V86 virtualization technology for running Linux environments in web browsers
- Developing browser-based operating system solutions using advanced JavaScript and WebAssembly
- Implementing system-level programming for virtual machine architecture in browser environment
- Creating innovative solutions for cloud computing and virtualization accessibility
- Contributing to open-source virtualization projects with focus on performance optimization

ML and Backend Engineer — November 2024 - February 2025
Zensible — *Remote*

- Developed healthcare AI system for mental health professionals in India
- Built voice transcription system using OpenAI's Whisper for therapy session analysis
- Implemented custom diarization for therapist-patient conversation differentiation
- Created SOAP notes generation system optimized for Indian languages and accents
- Architected specialized ML models for mental health assessment tailored for Indian context

Mobile App Development Intern — September 2024 - November 2024
Dhobi G — *Remote*

- Contributed to the development of a mobile application for Dhobi G
- Implemented key features and functionality using Flutter and Firebase
- Gained hands-on experience in app development and project management

Signal Analysis and ML Research Intern — May 2024 - July 2024
IISER Bhopal - SIRL Lab — *Bhopal*

- Worked on emotion detection using multimodal signals (GSR) under DR. Haroon's guidance
- Implemented CNN 1D, LSTM networks, and Fourier Transform for advanced signal analysis
- Created comprehensive signal processing pipelines achieving significant accuracy improvements

Frontend Intern — June 2024 - July 2024
Ministry of Education, India — *Delhi*

- Developed responsive interfaces for government education platforms using React
- Improved user experience satisfaction scores by 25% during internship period
- Featured on ministry's implementation team page for significant contributions
- Implemented secure data handling practices for sensitive educational information

CNN Architecture Intern   June 2023 - July 2023
IIT Kanpur   *IIT Kanpur*

- Developed CNN architectures for retinal image classification in medical diagnostics
- Collaborated with healthcare experts to improve diagnostic accuracy
- Implemented advanced deep learning techniques for medical image analysis
- Applied deep learning algorithms to analyze and classify retina images

PUBLICATIONS

Real-Time Smart Meeting Assistant using Edge AI for Audio Capture, Speech-to-Text Conversion, and Meeting Scheduling - Co-authored with Dr. A. Senthilselvi, Professor, Department of Computer Science and Engineering, SRM Institute of Science and Technology, Chennai. To be published in IEEE on 25th July 2025.

MAJOR PROJECTS

AI-Powered Smart Hospital Management System | *Healthcare, Machine Learning, Web Development*   2024
- Developed comprehensive hospital management platform integrating AI for patient care
- Implemented medical AI chat system with symptom analysis and clinical decision support
- Created medical report analysis for blood tests and X-ray images with abnormality detection
- Designed responsive dashboard with vital signs monitoring and health assessment tools
- **Preview Link:** https://health.saquib.in

WebLLM | *ML, AI, Gen AI*   2025
- Developed WebLLM solution for client-side AI inference, ensuring data privacy
- Optimized large language models for browser-based execution with minimal latency
- Implemented memory-efficient techniques for running AI models on resource-constrained devices
- Created framework allowing users to utilize AI capabilities without data leaving their device
- **Preview Link:** https://llm.saquib.in/

Live Stream Emotion Detection | *Computer Vision, Frontend Development*   2024
- Built real-time emotion detection system for video streams using face-api.js and hls.js
- Implemented detection for seven emotions (neutral, happy, sad, angry, fearful, disgusted, surprised)
- Created visual feedback with colored bounding boxes and detailed emotion probability statistics
- Optimized for performance with configurable detection frequency and input resolution
- **Preview Link:** https://livestramemotionanalysis.saquib.in

Voice and Text Emotion Analysis | *NLP, Speech Processing*   2024
- Developed multimodal emotion detection system analyzing both text content and voice patterns
- Implemented speech processing pipeline for tone, pitch, and vocal feature extraction
- Created NLP models for sentiment and emotion classification from textual content
- Integrated system with communication platforms for real-time emotional intelligence
- **Preview Link:** https://emotion.saquib.in

Tamil Language Model (LLM) | *Natural Language Processing, Deep Learning*   2023
- Building a large language model for Tamil from scratch without fine-tuning existing models
- Implementing custom tokenization for Tamil script and handling complex sandhi rules
- Developing specialized evaluation metrics for grammatical correctness
- Using distributed computing on GPU clusters for efficient training

Home Cloud Platform | *Cloud Computing, Security*   2023
- Developed private cloud solution using Raspberry Pi for data sovereignty
- Implemented security measures to prevent unauthorized AI model training
- Created secure remote access system with robust authentication
- Ensuring complete data privacy and control for users

NeuroKit-Eda-Analysis Library | *Signal Processing, Python Development*   2024
- Published open-source library for EDA signal analysis on PyPI
- Implemented advanced signal processing techniques for psychophysiological data

- Created comprehensive documentation and usage examples
- Facilitating research in affective computing and biosignal analysis

Healthcare Projects | *Computer Vision, Deep Learning*   2023-2024
- Developed U-Net based image segmentation model achieving 85% mean IoU
- Implemented YOLO-based object detection for medical imaging
- Created virtual mouse system with 95% gesture recognition accuracy using MediaPipe
- Developed Flutter app for café order management with AWS deployment

TECHNICAL SKILLS

Languages: Python (Advanced), JavaScript (Advanced), Java, C++, C, WebAssembly

AI/ML: TensorFlow, PyTorch, Scikit-learn, Keras, CNN, LSTM, ARIMA, GARCH, Whisper

Signal Processing: EDA Analysis, GSR Processing, Fourier Transform, Time Series Analysis

Web Technologies: React, Next.js, Node.js, HTML, CSS

System Programming: Virtualization (V86), Linux Systems, Browser APIs

Cloud & DevOps: AWS, Docker, Firebase, Raspberry Pi

Mobile Development: Flutter, Dart

Other: Git, RESTful APIs, Agile, CUDA, GPU Computing

LEADERSHIP & INVOLVEMENT

Head Technical Lead - Institute of Innovation and Entrepreneurship (IIE)   2024 - Present
SRMIST
- Leading a team of 20+ students in developing technological solutions for campus startups
- Established an AI/ML innovation lab supporting 5+ student startup projects
- Organized monthly entrepreneurship workshops focusing on tech implementation
- Mentored 10+ student entrepreneurs in technical architecture and deployment

Technical Lead - Tech Vayuna, SRMIST   May 2024 - Present

- Leading ML and web development initiatives
- Organized two successful hackathons
- Built and trained team members in advanced technologies

Technical Member - GDSC SRMIST   2023 - Present

- Created and led dedicated Machine Learning team
- Conducted technical workshops and training sessions
- Delivered sessions on "Exploring Data: From EDA to Model Deployment"

COMMUNITY ENGAGEMENT

Technology Volunteer - Social Warrior NGO   2023 - Present
Patna, Bihar
- Developed and implemented basic programming courses benefiting 100+ underprivileged students
- Created digital literacy curriculum covering basic computer skills to web development
- Organized weekly coding workshops and technical training sessions
- Established computer lab setup and maintenance programs in local communities

Technical Advisor - Jansdell Bharathi NGO   2023 - Present
Kolkata
- Led digital transformation initiatives impacting 500+ community members
- Implemented basic tech education programs focusing on smartphone literacy
- Created educational content in local languages for better accessibility
- Conducted monthly technology awareness workshops for elderly community members

CERTIFICATIONS & ACHIEVEMENTS

ABINITO WINNER: Ranked 2nd in AI Hackathon

Vashisht Hackathon: Won IIITD Hackathon organized on Kaggle

ML OLYMPAID: Ranked 13th Worldwide

CODE BATTLE: Ranked 2nd in EDA at SRMIST

Artificial Intelligence and Machine Learning: University of Texas at Austin, 2024

REFEREES

Dr. A. Senthilselvi
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SRM Institute of Science and Technology, Chennai, India
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