SANDEEP SHIVASHETTAR

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SUMMARY

AI & Data Science undergraduate and founder with production experience across full-stack engineering, cloud infrastructure, and deep learning research. Currently building Skilvi, an education platform handling live student enrolments, payments, and certification; previously delivered an industrial optimization engine for a manufacturing client and multiple Research papers on deep learning systems in medical imaging and signal classification. Comfortable owning a product end to end Operational workflows around it.

EDUCATION

M. S. Ramaiah Institute of Technology (MSRIT), Bengaluru Expected 2027

B.E— Artificial Intelligence and Data Science CGPA: 7.96

- Relevant coursework: Deep Learning, Digital Image Processing, Design & Analysis of Algorithms, Cloud Computing & Virtualization, IoT, Web Technologies, Statistical Programming.

TECHNICAL SKILLS

Languages: Python, JavaScript/TypeScript, C, SQL, HTML/CSS

ML & Deep Learning: TensorFlow/Keras, scikit-learn, CNNs, BiLSTM, Transformers, attention fusion, multiple-instance learning.

Optimization & Analytics: genetic algorithms, Bayesian optimization, ANP, pandas, NumPy, Matplotlib.

Web & Backend: React, Next.js , NestJS, Node.js, REST API design, JWT authentication, Google OAuth, Razor pay integration.

Data & Cloud: PostgreSQL, MongoDB, Neon DB, AWS (EC2, AWS RDS,IAM, SES, Bedrock), Vercel, Cloudflare DNS/SSL.

EXPERIENCE

Founder & Product Engineer — Skilvi 2026 – Present

Education / LMS platform within the Ember Quest ecosystem — Bengaluru, India

- Built and operate Skilvi, a technical learning platform covering student development, certification, and career placement, owning product strategy through to production. Designed and developed the core learning ecosystem: LMS delivery, student dashboards, enrolments, payments, learning content, certificate issuance, and support workflows.
- Architected the backend and database layer for student, enrolment, payment, and learning data using NestJS/Node.js with PostgreSQL and MongoDB. Integrated Razor pay to handle end-to-end payment workflows for course and program purchases.
- Ran cloud infrastructure and deployment across AWS (IAM, SES), Vercel, and Cloudflare, including DNS, SSL, and transactional email delivery. Developed operational workflows for managing students, instructors, internships, sales digital learning products.

Software Engineering Intern — Benaka Electronics (via MSRIT cohort) 2025

Steel-coil slitting optimization platform

- Designed and implemented a steel-coil slitting optimization engine in Python using Google OR-Tools, reducing manual planning effort for production scheduling. Delivered and certified the optimizer across five development phases completing persistence.

Freelance Full-Stack & ML Developer

- Deployed a production RAG based chatbot to AWS EC2 with Nginx, Gunicorn including service hardening and zero-downtime restarts.
- Redesigned and rebuilt KLE Society's SCP College website on Grav CMS. Built Service Booking System for Spa& Fitness Center.

SELECTED PROJECTS

EmberQuest — Internship Certificate Management System

- Next.js , MongoDB + NextAuth platform issuing verifiable internship certificates with QR-code validation and automated PDF generation; forms the certification layer of the Skilvi ecosystem.

GutBot — Enterprise Healthcare Chatbot

- RAG-based conversational assistant backed by AWS Bedrock LLMs, deployed on EC2 for enterprise healthcare use.

Multi-Modal Quality Control for Plastic Injection Moulding

- Team project fusing process and sensor modalities with a cross-modal Transformer and domain-adversarial training (DANN) on the ProBayes dataset; on a highly imbalanced defect distribution.

Attendance Management System

- Supabase system with anti-cheat enforcement through USN uniqueness constraints and server-side session validation for Quantum RIT Students Club.

RESEARCH

Deep learning research built to IEEE journal standards, with reproducible pipelines and interpretability baked in.

- FusioNet-DR — dual-stream spatial-frequency framework for diabetic retinopathy grading on APTOS 2019, using CORAL ordinal regression and CMAF attention fusion.
- CBAM-CNN-BiLSTM — ECG arrhythmia classification on MIT-BIH under the AAMI 5-class scheme, with Sparse Multi-Head Self-Attention, Grad-CAM explanations, and a custom binary .atr annotation parser written to bypass a wfdb library defect.
- STAMP-Net — oral cancer histopathology classification using attention-based multiple-instance learning (ABMIL) with adversarial stain disentanglement.