

POORNIMA SHANMUGANATHAN

Science & Technology Educator | Educational Content Developer | Researcher in Learning Design
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PROFESSIONAL SUMMARY

M.Sc. IT topper (CGPA 8.75/10) and Assistant Professor currently teaching 360+ students across three undergraduate classes. Experienced in designing structured learning content, running hands-on lab sessions, and engaging students from varied backgrounds. Built and deployed PROVA — an educational platform — after observing firsthand that students were submitting work they could not explain or defend.

TEACHING & PROFESSIONAL EXPERIENCE

Assistant Professor — IT/CS | Pune Vidyarthi College, Ghatkopar, Mumbai July 2025 – Present

- Teaching 360+ students across TY CS and TY IT classes, handling advanced subjects including Game Programming, Data Analysis & Big Data, AI, Mobile Application Development, Software Project Management, Information Retrieval, and ITIL 4.
- Developed structured curriculum and practical assignments to build independent problem-solving skills.
- Guided students in building production-ready projects they can explain, defend, and present at viva voce.
- Identified a widespread copy-paste problem among students and built PROVA — a full educational platform — to address it at scale.

Assistant Teacher — IT | Sree Narayana Guru Central School, Chembur, Mumbai June 2023 – July 2025

- Taught computer fundamentals and digital literacy to primary school students.
- Developed age-appropriate lesson plans to build logical thinking and basic computational skills.
- Fostered curiosity-driven learning through interactive classroom activities.

EDUCATIONAL PLATFORM & KEY PROJECTS

PROVA — Guided Project Learning Platform (Live) 2026

Django · PostgreSQL · HTML/CSS/JS · Multi-API AI (Groq, Gemini AI, Mistral) · Railway · www.provaedu.in

- Built and deployed a full-stack educational platform to solve a real classroom problem observed firsthand: students submitting copied projects they cannot explain or defend.
- Designed 280+ structured learning tasks across 6 modules, each with activity prompts, reflection exercises, and industry context — built around scaffolded, beginner-friendly progression.
- Currently in pre-launch testing phase; student field-testing planned post-examinations with IT/CS undergraduate cohort.

Sentix AI — Text Analysis & NLP Web Application 2026

Django · Python · NLTK (VADER) · RAKE · Chart.js · Render

- Developed a web application for sentiment analysis, text summarisation, and keyword extraction using NLP techniques.
- Integrated NLTK's VADER model, frequency-based summarisation, and the RAKE algorithm for multi-task text analytics.
- Built user-specific dashboards with activity history and data visualisation using Chart.js.
- Submitted as CS50W (Harvard) final project — live at sentix-ai-2b7w.onrender.com

CNN Emotion Recognition Model 2023, extended 2025

Python · TensorFlow · Keras · Google Colab · FER2013 Dataset

- Engineered a Convolutional Neural Network for facial expression recognition achieving 94% validation accuracy on the FER2013 dataset.
- Documented results and published source code on GitHub as part of M.Sc. final year research.

EDUCATION

Master of Science — Information Technology

Sree Narayana Guru College, University of Mumbai

2023 – 2025

- CGPA: 8.75 / 10 | Overall: 79.4% | Departmental Topper

Bachelor of Science — Information Technology

Sree Narayana Guru College, University of Mumbai

2020 – 2023

- CGPA: 8.25 / 10 | Overall: 74.3% | Departmental Topper

CERTIFICATIONS & TRAINING

- CS50's Web Programming with Python & JavaScript — Harvard University (2026)
- Python Developer Certificate — SoloLearn (2025)
- Faculty Development Program — Nimble Foundation (2024)
- Unboxing NCF, NEP & Implementation in Classroom — Madhubun (August 2024)
- Committee Member, International Computer Science (ICS) Olympiad — Science Olympiad Foundation (2024)

ACADEMIC RESEARCH & PRESENTATIONS

- Digital Transformation in Libraries and Education — M.Sc. Part II Research Paper, presented at college-level academic forum, certificate awarded (2025)
- VoIP Innovations: The Future of Seamless Digital Communication — M.Sc. Part I Research Paper, presented at college-level academic forum, certificate awarded (2024)

SKILLS

Teaching	Undergraduate & primary school instruction, lab facilitation, viva preparation, student mentorship
Content Design	Structured learning modules, task scaffolding, activity design, documentation, GitHub-based project guides
Languages	English (professional), Hindi, Tamil, Marathi (working knowledge)
Technical	Python, Django, SQL, Git/GitHub, HTML/CSS, MS Office, Libre Office, Google Colab, Jupyter Notebook
Soft Skills	Cross-background communication, student engagement, curriculum planning, field documentation