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12211381
B.Tech.
Gender: Male
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Examination	University	Institute	Year	CPI / %
Graduation	SPPU (Pune)	Vishwakarma Institute of Technology, Pune	2026	8.43
HSC	TSBIE	Narayana Junior College, Kondapur, Hyderabad	2022	92.50%
SSC	CBSE	Sant Tukaram National Model School, Latur	2020	95.60%

SKILLED AREAS

- **Machine Learning**
- **Deep Learning**
- **Algorithms & Data Structures**
- **Operating Systems**
- **Data Science**
- **Computer Vision**
- **Computer Networks**
- **DBMS**
- **DE and COA**

RELEVANT COURSES (besides college module)

certificates

- Fundamentals of Deep Learning - *NVIDIA*
- Introduction to Transformer-Based NLP - *NVIDIA*
- Deep Learning Specialization - *DeepLearning.AI*
- Building RAG Agents with LLMs - *NVIDIA*
- AWS Cloud Technical Essentials - *AWS*
- Python for Data Science, AI & Development - *IBM*

PROFESSIONAL EXPERIENCE

- **Web Development Intern | CORAZON HOMES Pvt. Ltd. |** 3 months *March '25 - May' 25*
  - Worked with the real estate company as part of an industry-sponsored project to redesign and optimize their website using the **MERN stack**.
  - Developed a fully responsive website with improved **backend functionality, frontend design, SEO**, and content structure.
  - Built key modules including property listings, user authentication, advanced search filters, a booking interface, and an admin dashboard.

KEY MAJOR PROJECTS

- **3rd SEM** *Dec '23*
  Title: Face Recognition-Based Attendance System | *Computer Vision*
  - Published in **Springer, series:** Advances in Information Communication Technology and Computing **(AICTC 2024)**
  - Implemented **OpenCV-based facial recognition using Haar cascade and LBPH** for classroom attendance automation.
- **4th SEM** *May '24*
  Title: Flex Sensor Controlled Prosthetic Hand using Wireless Communication |
  Microprocessors + CAD
  - **Patent published, Intellectual Property India**
  - Developed a real-time wireless prosthetic hand using flex sensors for motion detection and control.
- **5th SEM** *Dec '24*
  Title: A Multimodal Anonymization Framework for MP4 Videos | *Computer Vision + AIML*
  - Awarded **Best Paper of the Session at IEEE International Conference on Emerging Smart Computing & Informatics (ESCI 2025), Pune.**
  - Developed a multimodal anonymization framework for MP4 videos to ensure end-to-end privacy by integrating **OCR for text redaction, GANs for facial anonymization**, and audio processing for voice alteration.
- **6th SEM** *May'25*
  Title: SigLIP-Gemma-2.4B: Lightweight Multimodal Vision-Language Model |
  Vision-Language | Generative AI
  - Designed and implemented a compact multimodal model that integrates a frozen **SigLIP-400M vision encoder** with a **2.4B-parameter Gemma decoder-only LLM.**
  - Achieved competitive results on **image captioning (CIDEr: 141.9) and visual question answering (VQA accuracy 83.19%)** despite significantly reduced model size.
  - Enabled downstream tasks like retrieval-augmented generation and visual reasoning.

HACKATHON PROJECTS

Title: DeepScan3D: Single X-ray to 3D CT Reconstruction using Neural Radiance Fields

Computed tomography | Computer Vision | Generative AI

- Developed a NeRF-based framework in PyTorch to reconstruct high-fidelity 3D CT-like volumes from a single 2D X-ray image.
- Integrated components include learned latent code representation, differentiable volume rendering using the Lambert-Beer law, and a GAN training loop with SSIM and reconstruction losses.
- Used synthetic DRRs from real CT datasets for supervision, eliminating the need for multiple real X-ray views. Designed and implemented a full architecture including self-supervised novel view consistency and test-time latent optimization to handle unseen inputs.

KEY COURSE PROJECTS

- **Aerial2Map: Pix2Pix-based Satellite-to-Map Translation** | *Artificial Intelligence* *Nov '24*
  - **Tech stack:** PyTorch, PatchGAN, Python.
  - Implemented a Pix2Pix GAN model to convert satellite images into map routes, leveraging U Net for the generator and PatchGAN for the discriminator.
  - Configured loss functions using BCEWithLogitsLoss for adversarial loss and L1Loss for reconstruction, weighted by a λ of 200 for balance.
  - Trained the model with a batch size of 4 on 256x256 RGB inputs, achieving progressive enhancement in map realism and structure accuracy over 20 epochs.
- **Packet Sniffer: Real-Time Network Traffic Analysis *Tool*** | *Computer Networks* *Nov '24*
  - **Tech stack**: Java, pcap4j, Java Swing.
  - Developed a real-time packet sniffer using Java, leveraging the pcap4j library for live network packet capture and analysis.
  - Implemented a graphical interface with Java Swing, enabling features such as network interface selection, detailed packet inspection, and live statistics visualization.
  - Added functionality to export captured packets in pcap format, ensuring compatibility with offline analysis tools.
- **Markdown Transpiler: Markdown to HTML Converter** | *Compiler Design* *Nov '24*
  - **Tech stack:** C++, Lex, Yacc, Flex, Bison.
  - Implemented a transpiler using Lex and Yacc for parsing Markdown and translating it to HTML, with core logic in C++.
  - Structured the project with CMake for streamlined builds and extensibility through customizable grammar rules.
- **DNA Data Compression: compression algorithm for genomic sequencing data** | *Algorithms*
  - **Tech stack:** C++, Python.
  - Implemented a DNA-specific compression system using predictive Markov modeling and arithmetic coding techniques. Analyzed domain characteristics to compare general-purpose (e.g., GZIP) vs. specialized compression methods for genomic data.
  - Designed and tested custom algorithms for encoding DNA sequences in FASTA/FASTQ formats, emphasizing adaptive statistical modeling and entropy-aware encoding for lossless compression.

TECHNICAL SKILLS

- **Languages:** C, C++, Python, HTML/CSS, SQL
- **Frameworks & Libraries:** PyTorch, OpenCV, NumPy, Pandas, TensorFlow, Keras, React, Express.js
- **Databases:** MySQL, MongoDB
- **Cloud & DevOps:** Azure, AWS, Docker, Kubernetes
- **Tools & Platforms:** VS Code,GitHub, Jupyter Notebook, Google Colab, Anaconda

OTHER ACTIVITIES & INTERESTS

- Current college team captain for Table Tennis and Tennis, playing at University level.
- Played Tennis at state level for CBSE for U14 and U17.
- Secured Gold medal for sketching in Indian Art Contest and certificate of appreciation (2024).
- Active artist, athlete and love binging academy award winning movies and series.