# Dev Mehul Nirmal

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## Education

**Ramrao Adik Institute of Technology, D. Y. Patil Deemed to be University** — **July 2021 – Present**
*B.Tech in Computer Engineering (Minor: Data Science), CGPA: **9.63/10*** — *Navi Mumbai, India*

**B.N.Bandodkar College of Science** — **May 2019 – July 2021**
*12th Grade, Percentage: **88%*** — *Thane, Maharashtra, India*

**VPM's A.K.Joshi English Medium School** — **May 2007 – April 2019**
*10th Grade, Percentage: **84.40%*** — *Thane, Maharashtra, India*

## Experience

**RAIT-ACM Student Chapter** — **Aug 2023 – Sept 2024**
*Tech Chief, RAIT-ACM* — *Navi Mumbai, India*

- Technical Chief at RAIT-ACM Student Chapter
- Led technical workshops, hackathons, and events.
- Managed website and social media presence
- Conducted the "Engineering Essentials" workshop, a two-day event where I taught Python and Streamlit to over 150 students, significantly enhancing their programming skills..
- Conducted a session on AI tools, techniques, and Machine Learning models at IGNASIA AI V1.0, a workshop organized by RAIT ACM SIGAI, focusing on Supervised and Unsupervised Learning concepts.

**Smart India Hackathon(SIH)** — **Aug 2024 - Nov 2024**
*Project: SAR Image Colorization Using Deep Learning Models* — *Navi Mumbai, India*

- Led a team of 6 to develop a GAN-based model for converting SAR images to optical images.
- Managed data preprocessing, training, and evaluation using metrics like PSNR and SSIM.
- Successfully presented the project, highlighting innovation and technical feasibility.

**Innovator – Fraculus: Web-Based Fractional Calculus Calculator** — **Nov 30, 2023**
*Featured in Gandhian Young Technological Innovation (GYTI) Awards 2023* — *Mumbai, India*

- Developed Fraculus, a tool for fractional derivatives and integrals using Streamlit.
- Recognized for innovation at GYTI Awards 2023.

**Web Developer – Cybersecurity Conclave 2024** — **Mar 1-2, 2024**
*Held at: DY Patil Centre of Excellence* — *Navi Mumbai, India*

- Designed and developed a professional website for the Cybersecurity Conclave 2024 event.
- Ensured a responsive, user-friendly interface to showcase event details, schedules, and speakers.

## Projects

**iSolveX: Numerical Methods in Swift for iOS** | *SwiftUI, Xcode, GoogleSignIn SDK* — **Jan 2025**
* Developed a native iOS app in SwiftUI for solving key numerical methods like Bisection Method, Regula-Falsi Method, Durand-Kerner Method, Muller's Method, Newton-Raphson, Eigenvalues, etc.
* Granted exclusive thumb-access to the Apple lab for development — a highly restricted facility.
* Implemented secure Google Sign-In and dynamic SwiftUI interface with real-time results.
* Built all algorithms from scratch in Swift without using external numerical libraries.

**FRACULUS: Calculator for Fractional Calculus** | *Python, Streamlit, Matplotlib, Sympy* — **Jan 2023**
* Powerful and user-friendly for researchers, students, and professionals
* Performs calculations related to Fractional Calculus
* Offers comprehensive tools for: 'Manipulating fractional derivatives' and 'Analyzing fractional integrals'
* Interactive and dynamic web interface (built with Streamlit)
* Filed a patent for the innovation, ensuring intellectual property protection.

**Sentiment Analysis in NLP** | *Python, Streamlit, NLTK, Matplotlib* — **Feb 2024**
* For text processing and sentiment analysis
* Used Matplotlib For data visualization (sentiment distribution charts)
* Streamlit for creating a user-friendly web interface for sentiment analysis

**3D Skull Reconstruction and Skin Generation** | *Python, Pydicom, OpenCV, dlib, Tensorflow* — **March 2024**
* Used pydicom to parse 3D skull images from CBCT scans.
* Enhanced skull image quality with OpenCV.
* Detected landmarks on skull images using dlib.
* Applied machine learning to generate skin on the skull.
* Tested accuracy and reliability of the reconstructed features.

**SAR Image Colorization Using Deep Learning Models** | *Python, PyTorch, GAN* **Aug 2024**

* Developed a GAN-based framework to translate SAR images into optical images.
* Utilized U-Net generator and PatchGAN discriminator for high-quality results.
* Trained on Sentinel-1 and Sentinel-2 paired datasets; evaluated with PSNR and SSIM metrics.
* Deployable for real-time SAR-to-optical image colorization.

## Technical Skills & Certifications

**Languages**: Python, Java, C, HTML/CSS
**Frameworks**: TensorFlow, Keras, Streamlit, OpenCV, NumPy, Pandas, Matplotlib, Scikit-learn
**Tools**: Git, SQL
**Technologies**: DS, AI, Machine Learning, Mathematics

## Leadership

**RAIT-ACM** **August 2023 – Present**
*Tech Chief* *Navi Mumbai, India*

* Led Technical Initiatives
* Managed and motivated a team of junior members to achieve technical goals.
* Provided guidance and support to junior members on technical skills and project development

## Hobbies

**Music, Singing, Gym, Cricket, Gaming, Swimming**