# PRANAV MUDAR

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## PROFESSIONAL SUMMARY

I am currently pursuing my 7th semester at PES University, with a strong passion for Web Technologies, Programming, and Data Analytics. I have proficiency in multiple programming languages, including C, Python, Java, and Unix Shell scripting. My technical skills extend to Big Data, Data Analytics, and Machine Learning, where I have gained valuable insights through academic projects and hands-on experience. Additionally, I am a creative individual with a background in art, copywriting, and editing, enabling me to approach problems with both technical expertise and creativity.

## TECHNICAL SKILLS

- **Programming Languages:** Python, Data Structures, Front End Web Development (HTML, CSS, Javascript), MySQL, Java, Linux (Shell Programming)
- **Machine Learning Libraries:** Scikit-learn, TensorFlow, Keras, Statistics, Basics of Supervised and Unsupervised Learning
- **Database Management:** SQL, MySQL
- **Developer Tools:** Jupyter Notebook, GitHub, Microsoft Office (Advanced Excel, Word)
- Strong problem-solving and analytical skills

## CERTIFICATIONS

- Introduction to Generative AI by **Google Cloud**
- Introduction to Artificial Intelligence by **IBM**
- Getting Started with AI using **IBM Watson**
- Tools of Trade: Linux and SQL by **Google**
- Introduction to Databases by **Meta**
- Python Introduction Course by **The University of Michigan**

## EDUCATION

**People Education Society (PES) University, Bangalore, India**　　　　　　　　　　　　**July 2022 - Present**
Bachelors of Science, Computer Science and Engineering (Senior) | CGPA: 8.68/10
Won 2 university-level hackathons.

**Narayana Jr. College, Anantapur, India**　　　　　　　　　　　　　　　　　　　**July 2020 - May 2022**
Maths, Physics, Chemistry | Percentage: 84.6 %

**Vishwa Bharathi E.M. High School, Anantapur, India**　　　　　　　　　　　　**July 2015 – May 2020**
High School | Percentage: 98.67%

## EXPERIENCE

**AIML- Intern, ISRO ( ISTRAC Centre) , Bangalore, India**　　　　　　　　　　　**Jun 2025 – Aug 2025**
- Explored ST-GNN, YOLO, LSTM Autoencoders, and Vision Transformers for anomaly detection in satellite telemetry; pivoted based on data structure and model limitations.
- Developed a multi-model anomaly detection pipeline for satellite telemetry using **CAE, One-Class SVM, and GMM**, achieving 90% accuracy on unlabeled data.
- Applied **YOLOv8** for visual anomaly localization by converting time-series data into plots, enabling feature-level diagnostics with bounding boxes.
- Built a web-based dashboard (Flask + JS) for real-time upload, analysis, and visualization of anomalies in satellite health monitoring.

**University AIML Club Coordinator, PES University, Bangalore, India**　　　　　　**Jan 2023 - Dec 2024**
- Led the organization's design domain and managed 15 club meetings, workshops, hackathons, and events focused on AI and ML technologies, engaging an average of 30 attendees per session.
- Collaborated on five projects and research endeavors applying AI and ML techniques to real-world challenges, resulting in the development of solutions that garnered recognition within the club community.

## PROJECTS

**Generative AI for 3D Cardiac Modeling from MRI Data (Ongoing Research Paper):**
- Conducted research on generative AI models using TensorFlow, PyTorch, and Keras to transform 2D MRI scans into accurate 3D heart models, enhancing medical imaging techniques.
- Fine-tuned pre-trained models and integrated data augmentation strategies with GANs (Generative Adversarial Networks) and 3D U-Net to improve accuracy and fill in missing anatomical details using training data.

**Generative AI for Custom Background Music Generation (Ongoing Research Paper):**
- Conducted research on generative AI models for generating Music and the control flow for the models that are generating music based off of a given video input.
- Using prompts generated using API calls to Gemini and generating transcript from the given video plus the audio should be able to sync with the video mood changes that happen. After the initial music generation you are able to communicate with the agent on what kind of changes you are expecting with this music and how the final output should be to refine the generated music for your need.

**Ultimate Tic-Tac-Toe with Reinforcement Learning (Ongoing Research Paper):**
- Ultimate Tic-Tac-Toe is a complex game where each sub square is another game of Tic-Tac-Toe.In ultimate tic-tac-toe, there are many battlefields, both local and global. Those battlefields interact with each other in weird and complicated way.
- Fine-tuned Q-Learning models are used for different difficulties such as Random algorithm for Easy, Q-Learning Table for Medium and Deep Q-learning for Hard.

**Personal Finance Manager (HTML, JavaScript, Node.js, MySQL):**
- A full-stack web application for managing personal finances—tracks transactions, budgets, goals, debts, and subscriptions through a responsive dashboard.
- Implemented backend APIs using Node.js and Express with MySQL for secure, persistent storage of financial records including expenses, limits, goals, and debts.
- Designed an intuitive frontend using HTML, Tailwind CSS, and Vanilla JavaScript, featuring real-time balance updates, analytics charts (Chart.js), and interactive UI with theme support.
- Integrated a multi-tab dashboard with income/expense insights, debt tracking, recurring billing visualization, and personalized financial goals.
- Built modular features like category-wise budget alerts, multi-cycle subscription reminders, and exportable reports for enhanced financial planning and usability.

**Student Tools (HTML, Javascript, Python, MySQL):**
- It is a website with Attendance Calculator, CGPA & SGPA Calculator, and PDF Combiner
- Developed a dynamic website with an Attendance Calculator and a robust search engine, facilitating automated tracking and quick information retrieval. Utilized front-end technologies (HTML, CSS, JavaScript)
- Demonstrated proficiency in database systems (MySQL) for storing attendance records and enabling efficient search functionalities within the website.

**Website for Disaster Management (HTML, Javascript, Python, MySQL):**
- Developed a dynamic website that facilitates NGO to get help for Disasters within the country where users and volunteers can check and access the disasters where as the volunteers can apply for volunteering at the disasters and the admin can add disasters and training sessions (HTML, CSS, JavaScript)
- Demonstrated proficiency in database systems (MySQL) for storing volunteer, disasters,  admin, training session and user records and enabling efficient search functionalities within the website.

**Chat server with file transfer (Socket Programming):**
- Made a chat server between multiple systems where the systems can share files and the admin can kick, or ban the systems in the server and has other features such as a log of the system entries/exits and the chat history.
- Also has the feature of having multiple clients within one system that can chat, share files, and other features.