Pranav Acharya
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Summary

A motivated engineering student with expertise in web development, design, and programming (C++, Java, Python). Skilled in machine learning, GenAI, and deep learning, focused on innovative solutions for complex technical challenges.

Education

PES University, Bengaluru **2022 – 2026**
Bachelor of Technology in Computer Science: **CGPA: 9.01**
BASE Sahakar Nagar: 2nd PUC 96.8%, State RANK 18 **2020 – 2022**
Vidyaniketan School, Bengaluru: ICSE 97% **2010 – 2020**

Experience

Software Development Intern at GoWarm **Present**
Contributed to a SaaS platform for GTM teams in a paid, remote role, gaining hands-on experience with Python, React.js, MongoDB, Spring Boot, and Azure.

Summer Internship at CDSAML **2024**
Worked on a deep learning hybrid model using GRU and CNN for predicting tags of Stack Overflow questions. Contributing to a paper publication.

Head of Design in Encode AI
Led the design team, overseeing the creation of the main event poster, club logo, and event ticket passes. Managed the recruitment and mentoring of junior designers, ensuring alignment with the club's creative vision and design standards.

Part of Design Team in Alcoding Club
Contributed to the design of weekly contest posters and social media posts, ensuring visually engaging and consistent branding for the club's online presence.

Projects

- **Campus-Surveillance-System-using-YOLOv11-and-ByteTrack-for-Real-Time-Object-Tracking** — Developed a state-of-the-art surveillance application utilizing YOLO object detection and ByteTrack for real-time threat monitoring and anomaly detection with React frontend and Python backend. [GitHub]
- **Agricultural Yield, Price Forecasting, and Crop Disease Detection System** — 1st place hackathon project implementing SARIMAX and deep learning models (CNN-ResNet, Transformers) for agricultural forecasting with FastAPI backend and React frontend. [GitHub]
- **EmoStream: Concurrent Emoji Broadcast** — Designed a real-time emoji aggregation system for live sporting events, capable of processing billions of emoji reactions concurrently. Leveraged Apache Kafka and Apache Spark for scalable, event-driven architecture. [GitHub]
- **ARVR Battleship Game Online** — Developed a real-time 1v1 online battleship game using Three.js for 3D rendering and Firebase for backend services. Implemented real-time multiplayer functionality and deployed on Vercel. [GitHub]
- **Enhanced RAG System for YouTube** — Developed a multimodal retrieval-augmented generation platform with dual operation modes (RAG/Agent) that dynamically extracts knowledge from YouTube videos using advanced prompting techniques. [GitHub] **(Paper being published based on this research)**
- **Advanced Reinforcement Learning for Ultimate Tic-Tac-Toe** — Implemented neural networks and PPO algorithms for an AI-powered game with three difficulty levels and responsive UI. [GitHub] **(Paper being published based on this research)**
- **Application Monitoring Dashboard** — A comprehensive log analytics and monitoring platform built using modern cloud-native technologies including Kafka, Prometheus, Loki, and Grafana for real-time application performance insights. [GitHub]
- **Course Registration System** — Developed a robust course registration platform using Maven and Spring Boot, implementing secure user authentication and efficient course management features. [GitHub]
- **Sports Management System** — Built a professional sports management platform with a polished UI using React for the frontend and MySQL for the backend. [GitHub]
- **Food Recommendation Website** — Designed and implemented a responsive front end using the MERN stack, featuring advanced routing for a seamless user experience. [GitHub]
- **Lock System Using C++** — Created a secure lock system incorporating a password generator for enhanced user authentication and security. [GitHub]
- **Schemes Management System Using C** — Developed an efficient recommendation system utilizing a binary search tree for fast retrieval and management of schemes. [GitHub]
- **Paper Publication** — *Automating Tag Prediction in Stack Overflow Using Machine Learning and Deep Learning Techniques*, accepted for publication at ICTIS 2025 (Bangkok, Thailand).

Skills

Web Development: HTML, CSS, JavaScript, React, MERN Stack **Design Tools:** Canva, Photoshop **Data Structures, Algorithms:** C++, C, Java, Python **Database:** MySQL, SQL **Machine Learning:** Deep learning, RAG, Generative AI, Model Development **Computer Vision:** YOLO, Ultralytics, Vision Transformers **OS:** Linux, Windows **Big Data:** Hadoop, Kafka, Apache Spark **Cloud:** AWS **DevTools:** VSCode, Git, Docker **Networks:** TCP/IP, SSL **Languages:** English (Fluent)

Achievements

Awarded the CNR Scholarship for all five semesters (top 20% of batch) | **Won 1st place at Arithemania 4.0, Shunya's flagship hackathon conducted by the PES CSE department, leading a team of 4 among 120 teams** | Participated in and organized various hackathons | Won multiple art competitions | Completed SUPW (Social Service) at PAPCP for two months