PRANAV PUNCHADATH

ML and Data analytics researcher

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ABOUT ME

A keen critical thinker, who believes to think at all possible cases and probes deeply into solutions for improvements. Enthusiastic and Innovating at the seamless merge of Robotics and AI for deep immersion experiences, and for the future of tech. Have deep dived into CNN's and supervised learning recently. Overall well spoken , charismatic and analytic. Loves to read, talk to people and keeps up with the latest updates in tech from over the world.

EDUCATION

PES UNIVERSITY, ELECTRONIC CITY CAMPUS — Bengaluru, India
- Bachelor of Technology in Computer Science and Engineering | Sem -4 — 2023-2027
- GPA : 7.9/10

CMR NATIONAL PUBLIC SCHOOL (CBSE) — Bengaluru, India
- Class XII : 95% (PCMC) — 2010-2023
  Secured 2nd Position in school, CBSE Board Exam 2023
- Class X : 93%

SKILL

- Computer Vision (CNN)
- Webots, Unity ML Agents
- Data Analysis (Pandas)
- Programming proficiency in Python and C++
- Machine Learning & AI Development
- Problem Solving and Research

PROJECTS AND EXPERIENCES

Web Nethralaya - An Online Glaucoma AI detector using CNN — **MARCH 2025**

Trained a CNN model (Resnet50) on the fundus images of the eye to detect glaucoma and also implemented scanning for ROP-Retinopathy of prematurity for infants and gave detailed analysis to doctors with database implementations.

- Implemented many preprocessing techniques and augmentations including C-GAN's
- Achieved a high accuracy model of 93% and validation loss of 0.09%

EmoFlagger - NLP based web app for text sentiment and emotion classification — **APRIL 2025**

Emoflagger is a lightweight NLP application that performs sentiment and emotion classification on user-provided text using logistic regression , trained on a public, ethically sourced dataset to detect whether a sentence expresses positive, neutral, or negative sentiment.

- Achieved a predictive accuracy of 78% for user sentiments.
- Used metrics like RMSE (Root mean square error) to ensure accurate predictions

Credit Risk Analysis using a Post Quantum Cryptography Federated Learning Approach (Research Publication) — **JULY 2025**

An ongoing research publication relating to the Credit market and detection of frauds using a Federated Learning approach using Post Quantum Cryptographic methods.

- Hypothesized about tradeoffs that occurred between classical and PQC enabled enncryptions. Developed multiple test cases to confirm our theory
- Contributed to the flower library to implement an optional PQC wrapper to encrypt communications between the server and the client.