

UMAR BALAK

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EDUCATION

Saraswati College Of Engineering

Bachelor of Engineering in Computer Science And Engineering (AIML) with **8.64 CGPA**

Navi Mumbai, India

2021 – 2025

Anjuman-E-Islam Janjira Jr. College of Science and Arts

Class XII with **92.50%**

Murud, Maharashtra

2019 – 2021

SKILLS

Programming Languages: Python, SQL

Libraries / Frameworks: TensorFlow, Keras, Scikit-Learn, NumPy, Pandas, Streamlit

Tools / Platforms: Jupyter Notebook, Google Colab, VS Code, Power BI, Git, GitHub

Databases: MySQL

PROJECTS

AI-driven Proctored Exam System

A comprehensive system for proctored exams, utilizing advanced AI technologies for real-time monitoring.

- Implemented **YOLOv8** for background monitoring to detect unauthorized individuals, significantly reducing cheating incidents.
- Deployed OpenCV and MediaPipe for **eye gaze tracking and head movement detection**.
- Technologies: YOLOv8, OpenCV, MediaPipe.

TinyVGG: Image Classification Model Inspired by VGG16

An optimized image classification model based on the VGG16 architecture, designed for efficiency.

- Explored **CNNs** by using the VGG16 architecture as a base model, creating an image classification model.
- Trained the model on the CIFAR-10 dataset, achieving a classification **accuracy of 92%** with a **model size of 4MB**.
- Technologies: TensorFlow, Keras, CNN

CineMate: Movie Recommendation System

A personalized movie recommendation system leveraging advanced algorithms for accuracy and user satisfaction.

- Created with K-Nearest Neighbors and TF-IDF to deliver the **top 10 personalized movie** picks.
- Features two sections for movie recommendations: one with **8,000 top Netflix** movies and another with **75,000 top TMDB** movies.
- Technologies: KNN, TF-IDF

MoodMapr: Sentiment Analysis Tool

Utilizing Logistic Regression with TF-IDF vectorization for accurate sentiment categorization.

- Designed to achieve **90% accuracy** in categorizing text into positive or negative sentiment.
- Analyzed over **50,000 movie reviews**, and feedback, providing actionable insights into textual emotion.
- Technologies: Logistic Regression, TF-IDF

EXPERIENCE

Quasar 2.0 Hackathon - 1st Prize Winner

March 2024

Developed the AI-driven Proctored Exam System utilizing YOLOv8 for unauthorized person detection and OpenCV with MediaPipe for eye gaze and head movement tracking.

NASA Space App Challenge - 1st Prize Winner

October 2023

Created an intelligent project collaboration system with a recommendation engine powered by machine learning, including a web interface for student-recruiter matchmaking.

CERTIFICATIONS

Microsoft Azure AI-900 - Microsoft

March 2023