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CONTENT MONETIZATION MODELER

PROJECT BY KASI RAJAN

PROJECT OVERVIEW

- **Machine learning tool to estimate ad revenue (USD) for online content.**
- **Predicts revenue based on views, likes, comments, watch time, subscribers, engagement, and more.**
- **Streamlit web app for real-time user interaction.**

Key Features

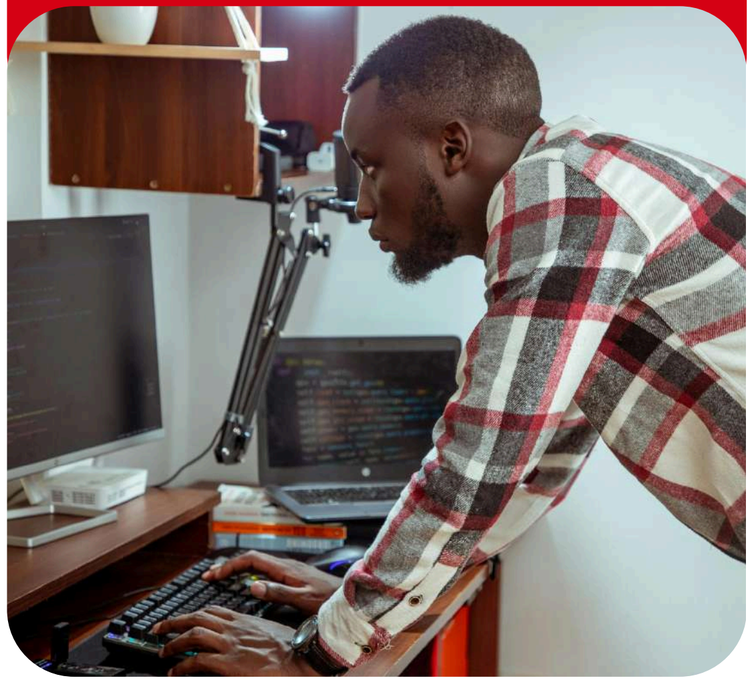
PREDICTS AD REVENUE USING 13 INPUT FEATURES:

- VIEWS, LIKES, COMMENTS, WATCH TIME, VIDEO LENGTH, SUBSCRIBERS
- CATEGORY, DEVICE, COUNTRY, DAY OF WEEK, MONTH
- ENGAGEMENT RATE, AVG WATCH TIME (AUTO-CALCULATED)
- HANDLES CATEGORICAL INPUTS: CATEGORY, DEVICE, COUNTRY, DAY OF WEEK
- LIVE PREDICTIONS USING YOUTUBE API KEY

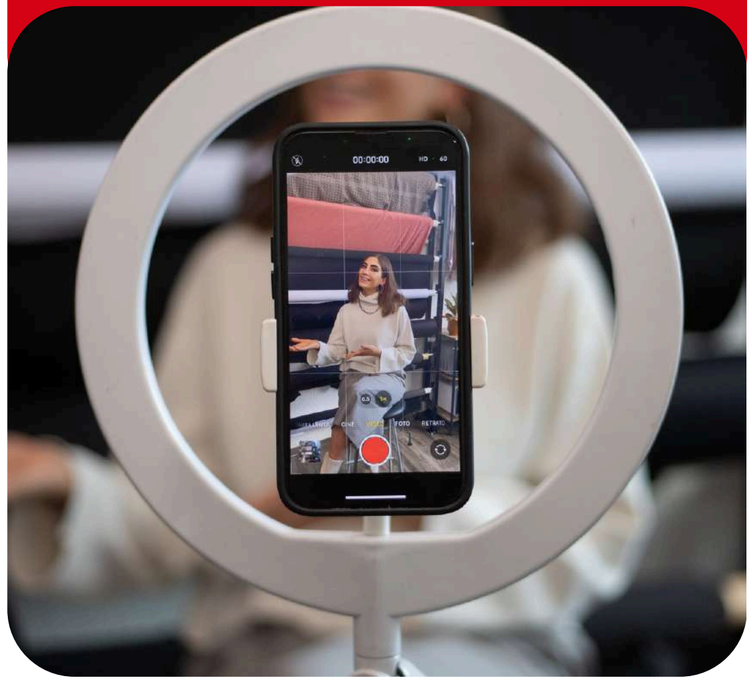
Feature Engineering

ENGAGEMENT RATE = (LIKES + COMMENTS) / VIEWS

AVERAGE WATCH TIME = WATCH TIME / VIEWS



HELPS THE MODEL CAPTURE USER INTERACTION EFFICIENCY



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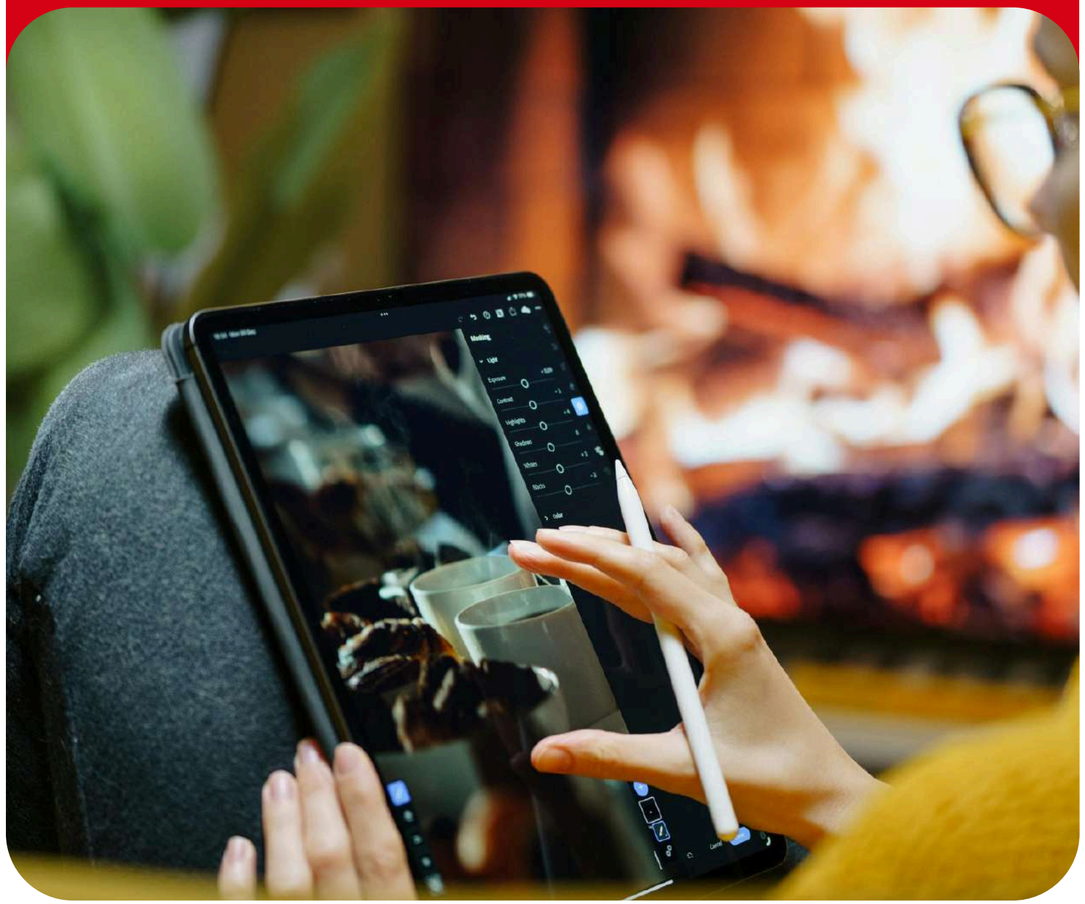
Data Preprocessing



- HANDLE MISSING VALUES IN NUMERIC AND CATEGORICAL COLUMNS
- ENCODE CATEGORICAL VARIABLES USING LABEL ENCODER
- FEATURE SCALING FOR MODELS LIKE LINEAR REGRESSION
- IMPLEMENTED IN CONMON.IPYNB

SUBSCRIBE

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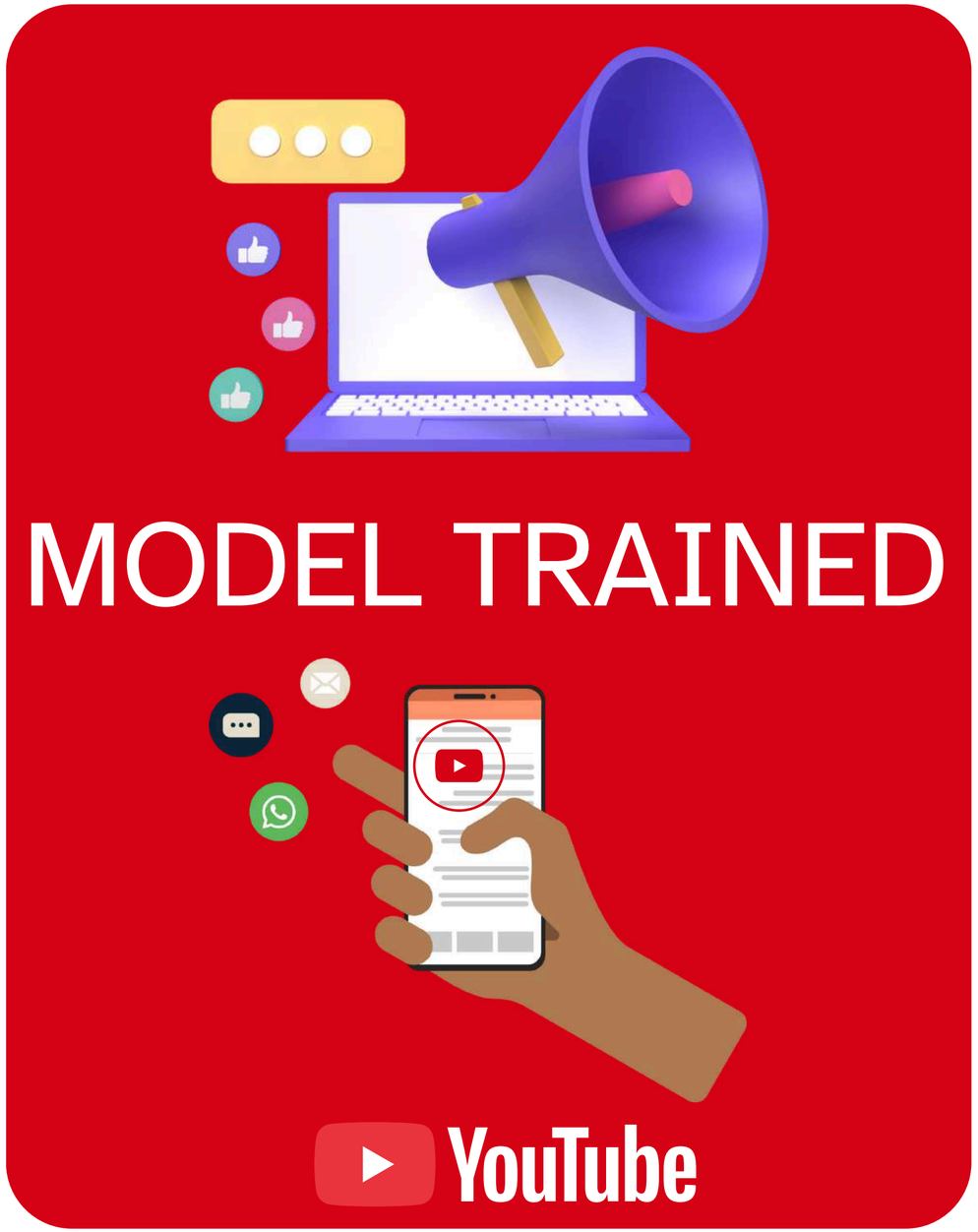
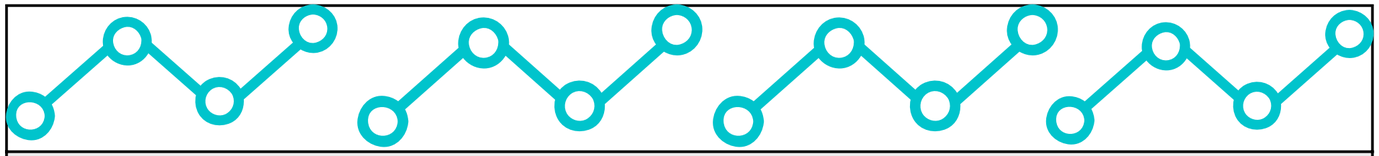




Linear Regression (LR)
Decision Tree Regressor (DT)
K-Nearest Neighbors (KNN)
Random Forest (RF)
Gradient Boosting (GBR)

MODEL EVALUATION & SELECTION

- EVALUATED USING R^2 SCORE ON TEST DATASET
- LINEAR REGRESSION CHOSEN FOR DEPLOYMENT BECAUSE:
- FAST PREDICTIONS
- STABLE AND INTERPRETABLE
- OTHER MODELS CAN IMPROVE ACCURACY IF NEEDED

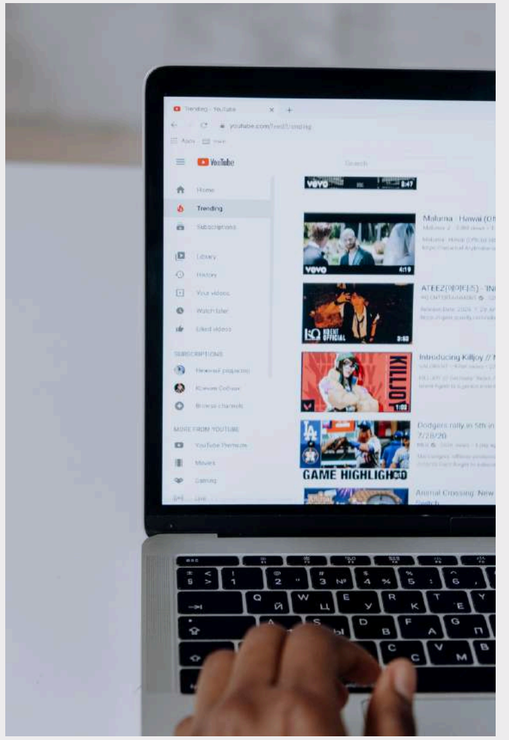
System Architecture / Workflow

WORKFLOW DIAGRAM

- INPUT DATA (MANUAL OR YOUTUBE API)

- PREPROCESSING & FEATURE ENGINEERING

- MODEL PREDICTION



- OUTPUT: ESTIMATED AD REVENUE

STREAMLIT WEB APP

- USER-FRIENDLY INTERFACE FOR REAL-TIME PREDICTIONS
- ACCEPTS MANUAL INPUT OR FETCHES LIVE YOUTUBE VIDEO DATA
- DISPLAYS PREDICTED REVENUE INSTANTLY

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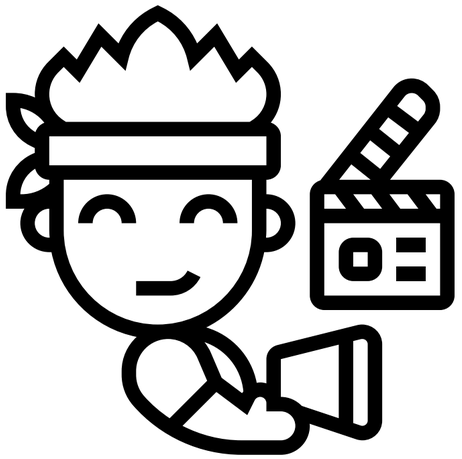

CONCLUSION

- ACCURATE REVENUE PREDICTION FOR ONLINE CONTENT
- FLEXIBLE: SUPPORTS MULTIPLE REGRESSION MODELS
- INTERACTIVE: STREAMLIT APP WITH LIVE API INTEGRATION
- CAN BE EXTENDED FOR OTHER PLATFORMS OR REVENUE STREAMS

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Thank You