

Excelerate AI Powered Data Insights Internship: Final Presentation

Presented by - TEAM I

Akshay Cu (akshaycu74@gmail.com)
Priyanka R (priyankar2799@gmail.com)
Sahana Ganeshvel (gsahana2020@gmail.com)
Kumari Sambriddhi (sambriddhi246@gmail.com)
Vamshi Reddy Dasari (dasarivamshir@gmail.com)
Lohoma Islam (lohomaislam7@gmail.com)
Md Ruhanul Karim (mdruhanulkarim@gmail.com)
Sheikh Muhammad Jawad Ahmed
(sheikhmuhammadjawadahmed001@gmail.com)

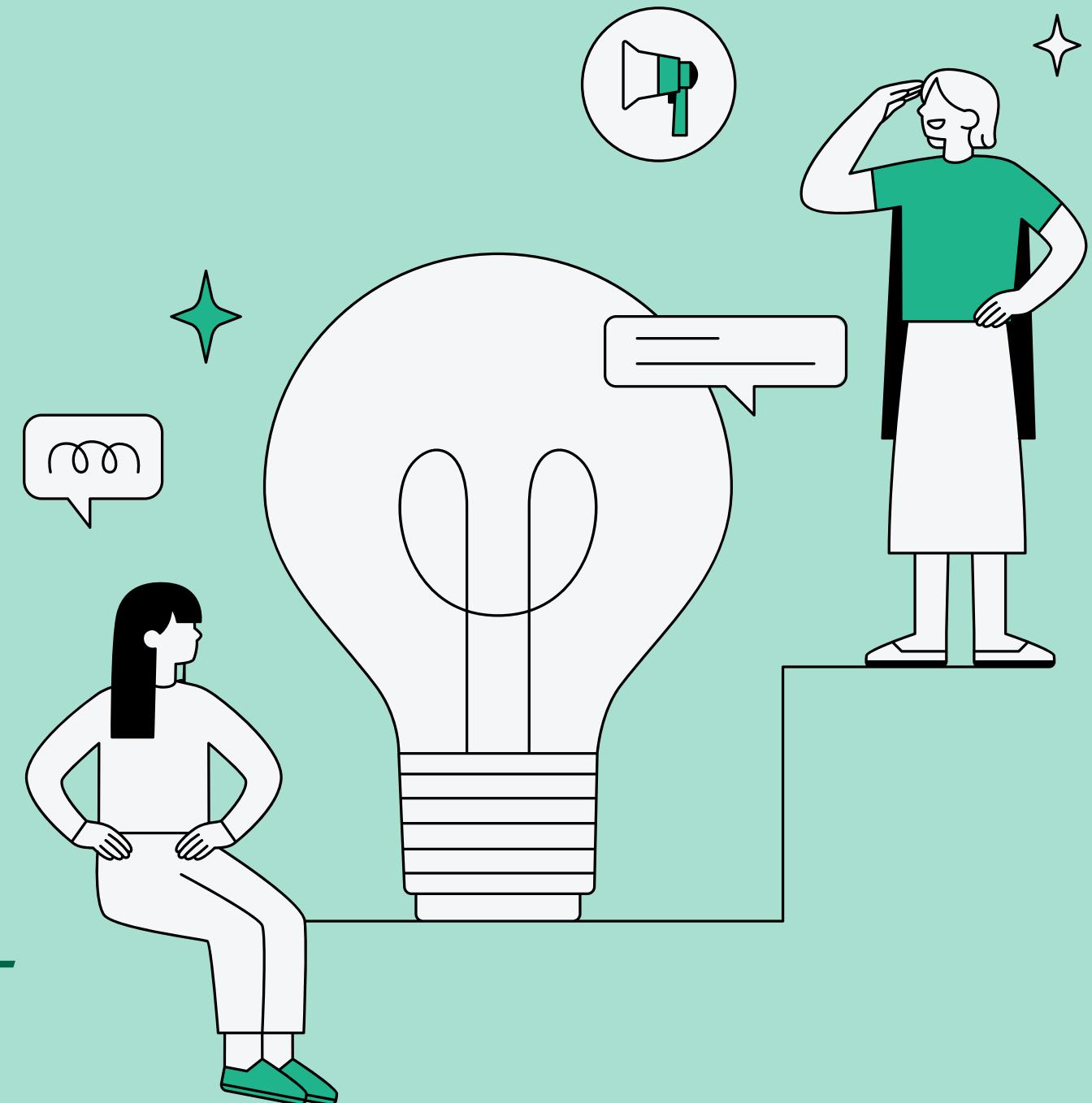


Project Objective & Problem Statement

Objective: To analyze student data to improve retention using modeling techniques.

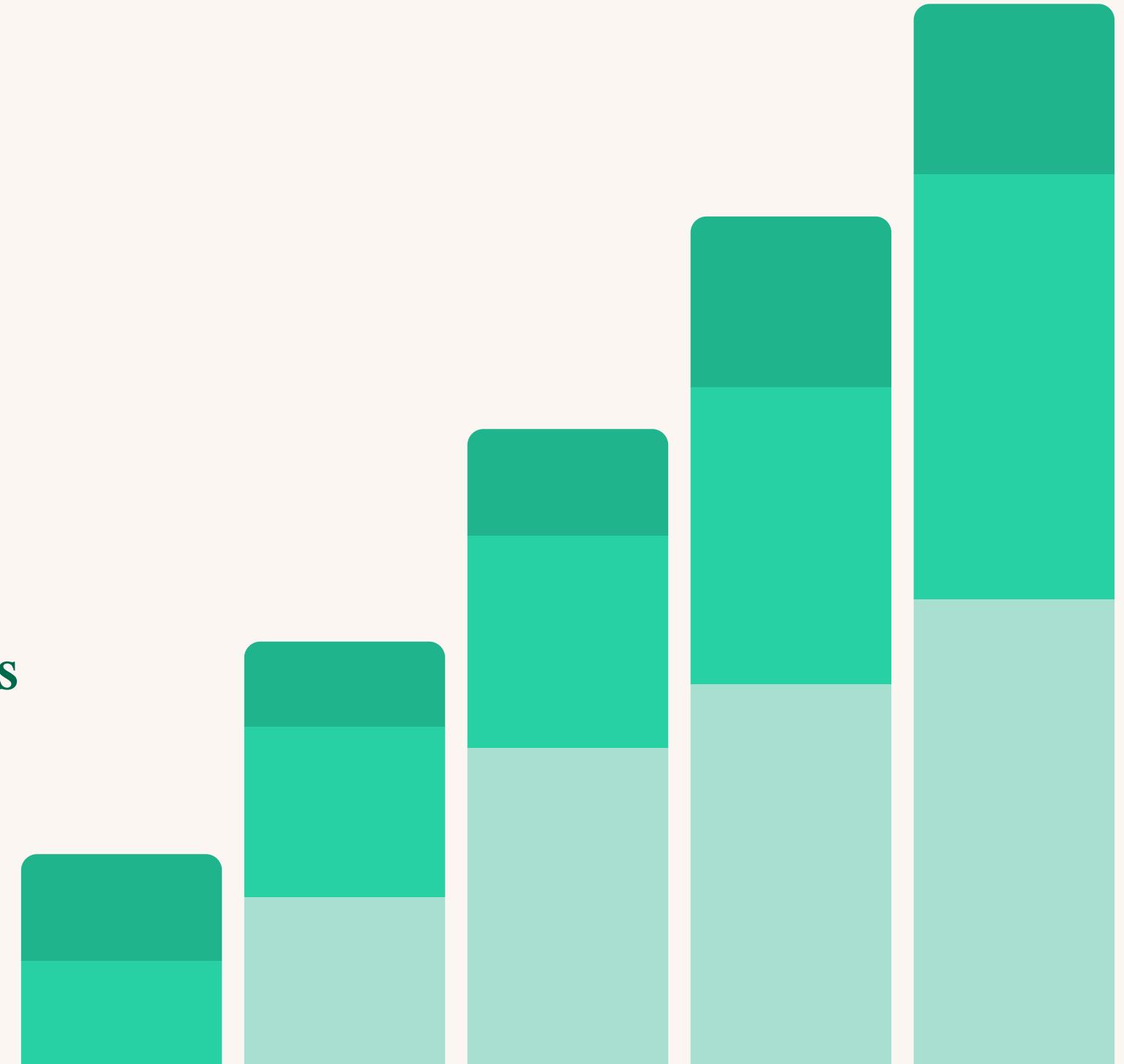
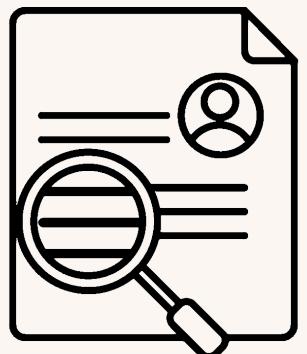
Problem Statement:

- *Current Issue: Difficulty in tracking student engagement and retention.*
- *Impact: Limited ability to make data-driven decisions.*
- *Goal: Develop a predictive model to improve decision-making*



Week 1 – Data Cleaning & Feature Engineering

- Imputed missing values
- Removed duplicates using unique learner ID logic
- Created features:
- Engagement_Score = Avg(Opportunity Duration, Age, Engagement Days)
- Repeat_Opportunities: Count per student
- SignUp_Month, Engagement_Days for trend analysis



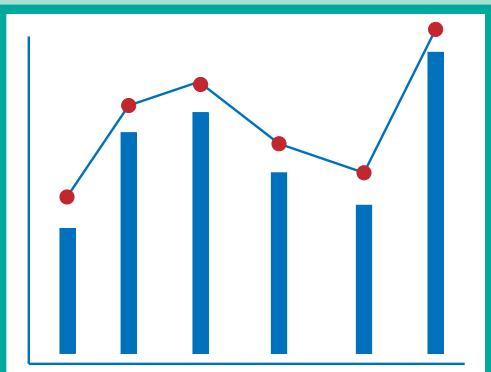
Week 2 – EDA & Data Visualization

- Majority of learners aged 20-25
- Uneven gender representation
- High engagement in specific countries (India, US)
- Engagement patterns varied with time; no linear trends
- Identified top opportunities with high signup and completion rates

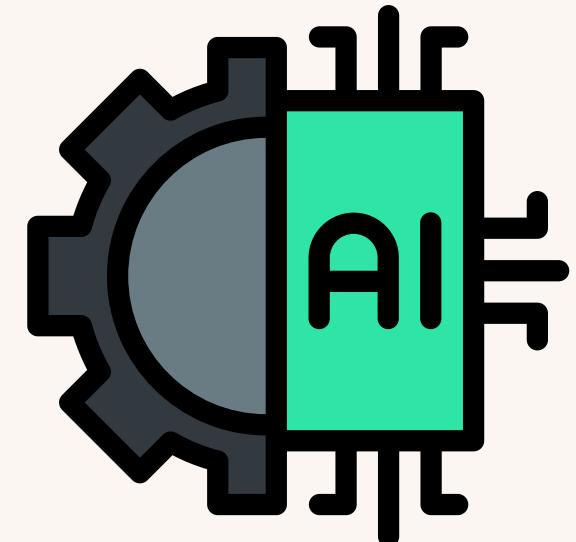


Popular Opportunities:

- A horizontal bar chart illustrated the Opportunity Category Distribution, revealing categories like "Tech Bootcamp" and "Business Accelerator" as the most enrolled.
- The Status Distribution Chart showed higher completion rates in opportunities with structured mentorship and shorter durations.
- The Top 10 Country-Wise Learner Distribution Chart reinforced the importance of tailoring opportunities based on regional interest.



Week 3 – Predictive Modeling



01.

Created binary churn variable based on:

- Engagement Score < 160
- Engagement Days > 50

02.

Model: Random Forest Classifier (Accuracy: 99.87%)

03.

Key churn indicators:

- Low engagement score
- Delays between apply and start dates
- Repeat opportunities

Week 4 – Recommendation System

Practical Actions

01.

- Assign mentors to students with low initial scores
- Launch onboarding for students with >30-day start delays
- Reward early course completions
- Personalize dashboard with suggested tasks and milestones
- Promote opportunities in high-signup categories with proven completion success



Strategic Initiatives

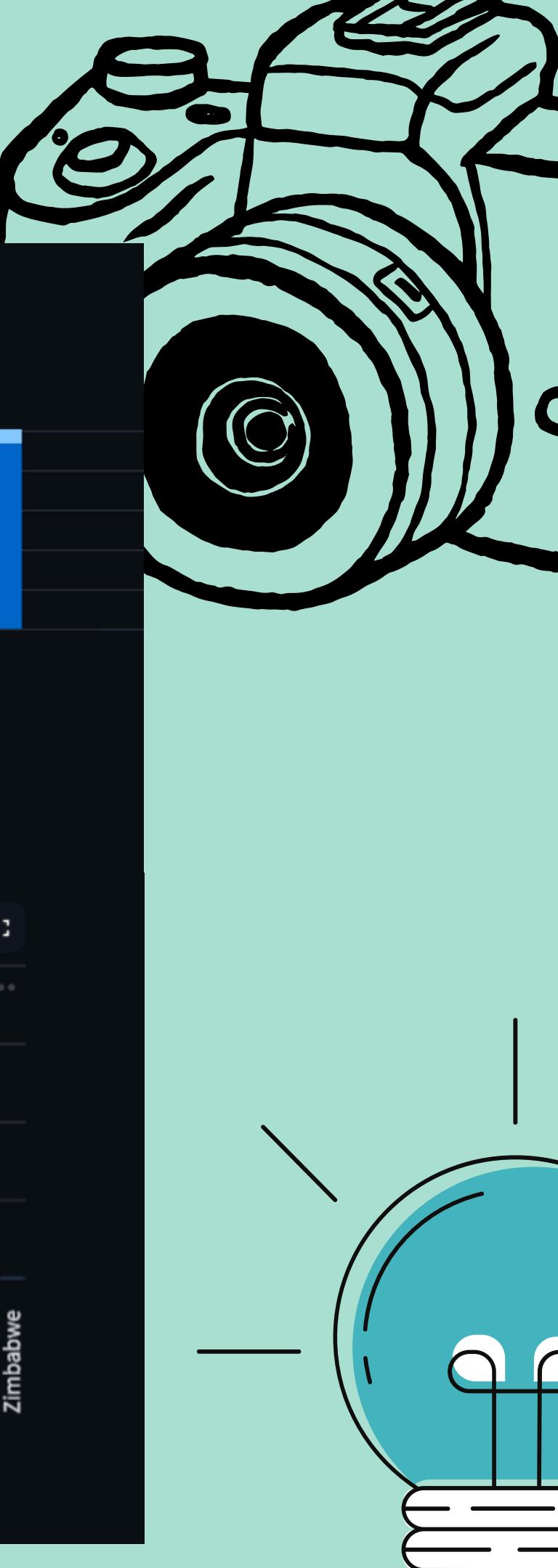
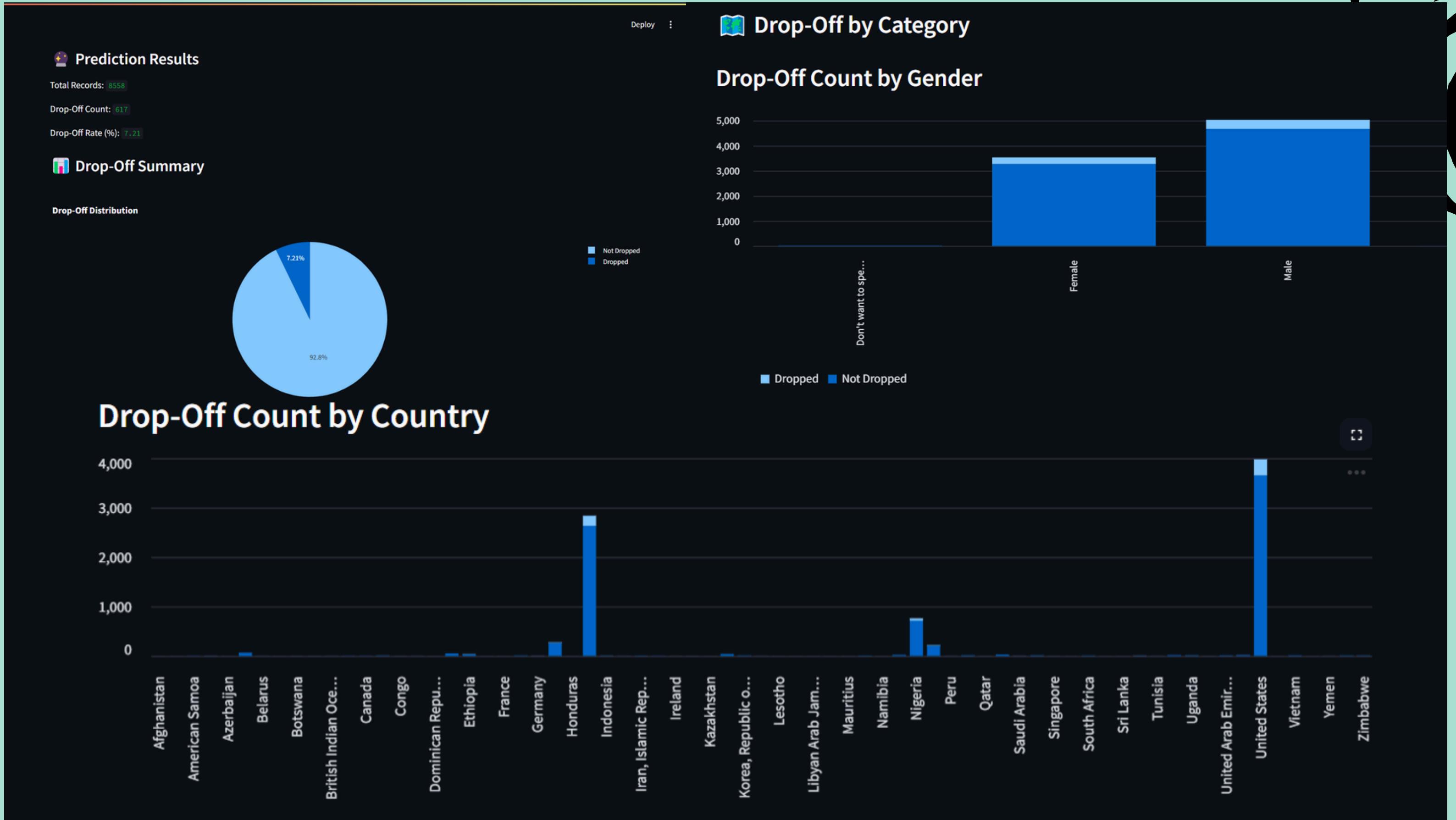
02.

- Focus outreach in low-engagement regions
- Promote inclusive programs to close gender gaps
- Partner with regional institutions for better access
- Enhance offerings in popular domains (Tech, Business) with flexible scheduling

Key Findings

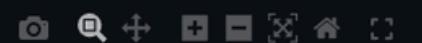
Insight	Takeaway
High signup ≠ High completion	Opportunity quality and timing matter
Low Engagement Score	Strongest dropout predictor
>50 Days Delay Before Start	Raises dropout chance by ~18%
Multiple Application Attempts	Suggests dissatisfaction or mismatch
Regional/Gender Gaps	Indicate need for targeted content & outreach
Popular Categories Identified	Tech and Business domains have highest interest

Snapshots of the Application

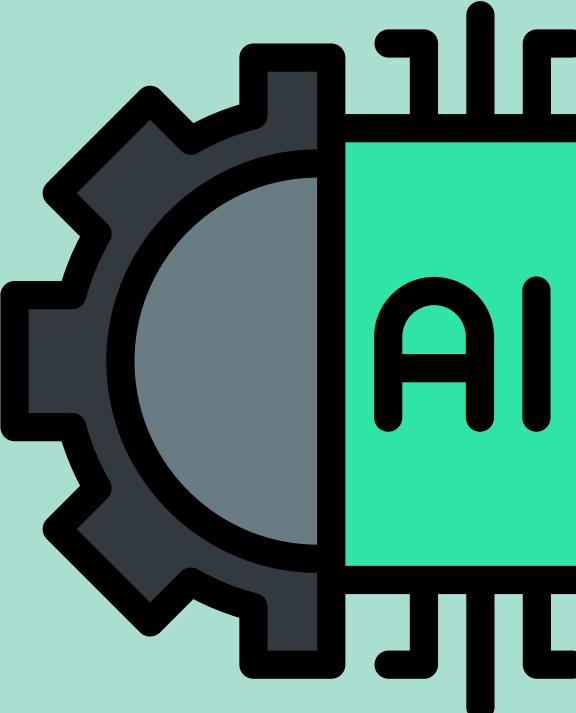
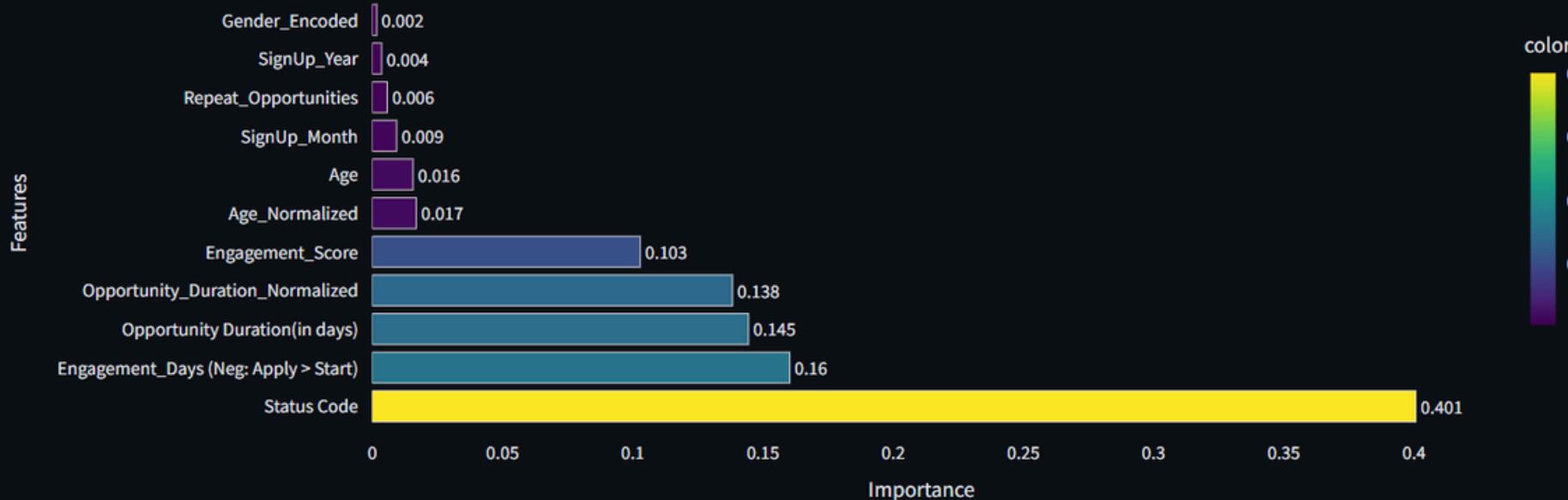


Predictive Modeling (Experimental)

Model Accuracy on Current Data: 99.96%

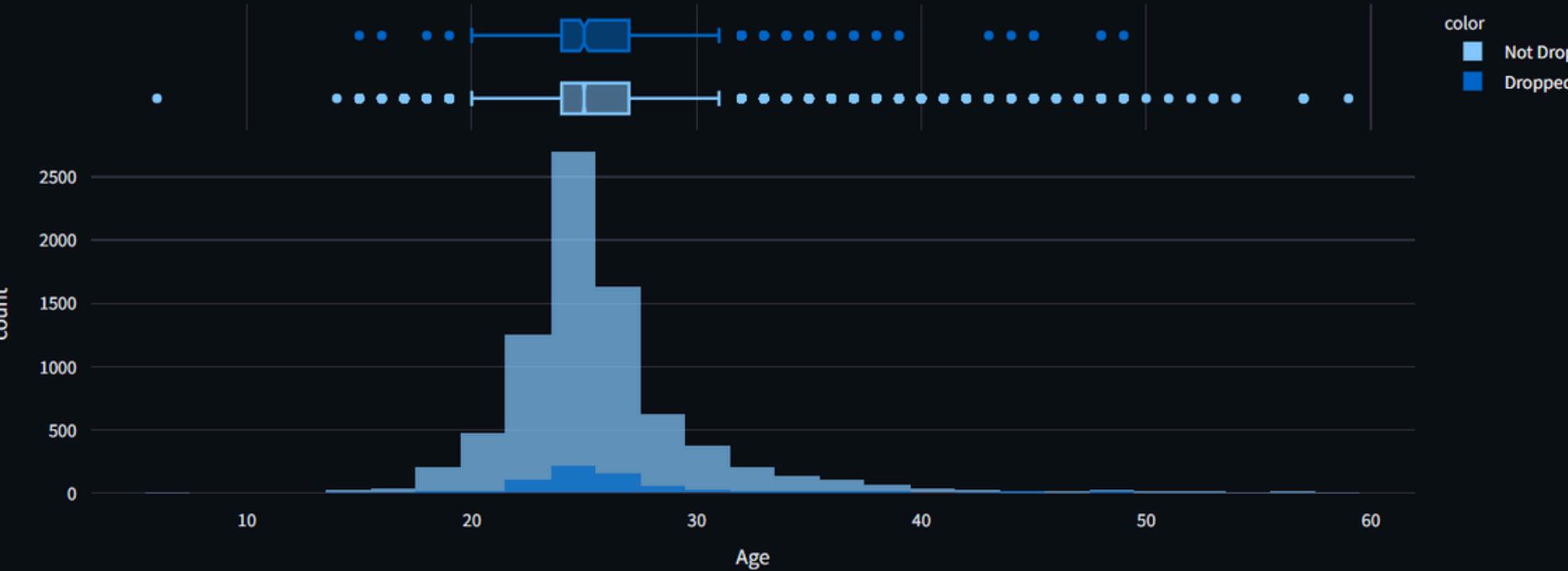


Feature Importance in Predicting Drop-Off



Feature Distributions by Drop-Off

Age Distribution by Drop-Off Status



Conclusion & Future Scope

This internship project explored student engagement through the lens of data science and machine learning. It successfully identified trends behind opportunity signups, completions, and drop-offs. The analysis led to actionable recommendations and a prototype system to improve learner retention.

Future Enhancements:

- Integrate real-time engagement dashboards
- Use NLP to analyze feedback and sentiment
- Leverage clickstream data for behavior modeling
- Expand opportunity tracking to include completion feedback and ratings

Thank You!

