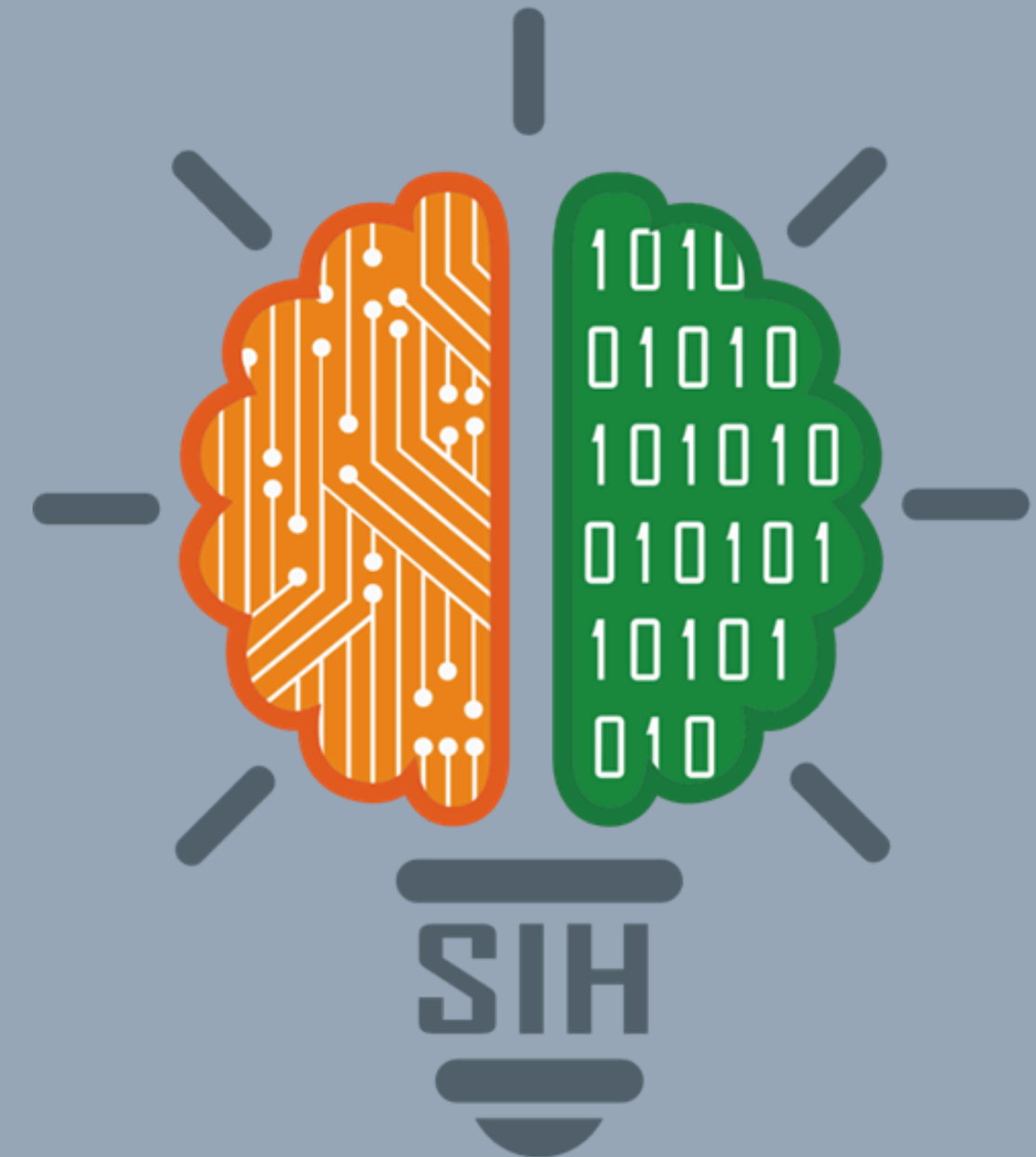


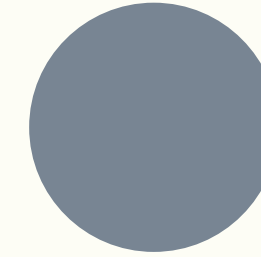
SMART INDIA HACKATHON 2025

AI-BASED DROP-OUT PREDICTION & COUNSELING SYSTEM

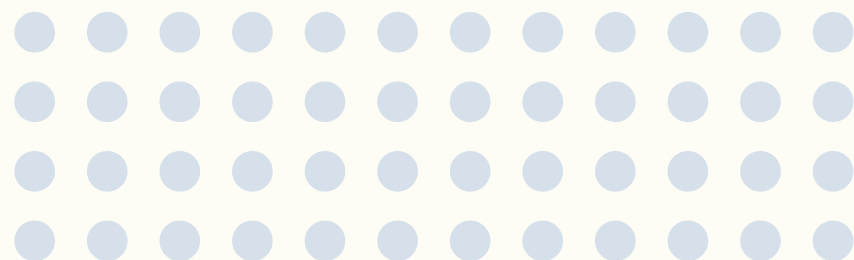
- **Problem Statement ID –**
- **Problem Statement Title-**
- **Theme-**
- **PS Category- Software/Hardware**
- **Team ID-**
- **Team Name (Registered on portal)**



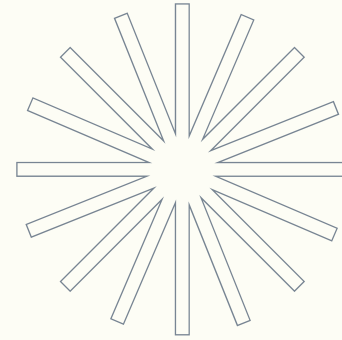
Problem Background



- > Academic data is scattered: attendance, exams, fee payment exist in silos
- > No consolidated view → early warning signs missed
- > Students often disengage before results reveal failure
- > Commercial analytics are too costly & complex for public institutes
- > Need: A low-cost, transparent system that detects risks weeks in advance and alerts mentors/guardians



Proposed Solution



A unified AI-powered dashboard that:

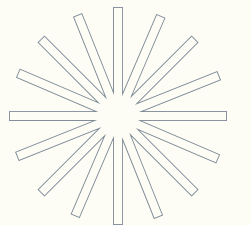
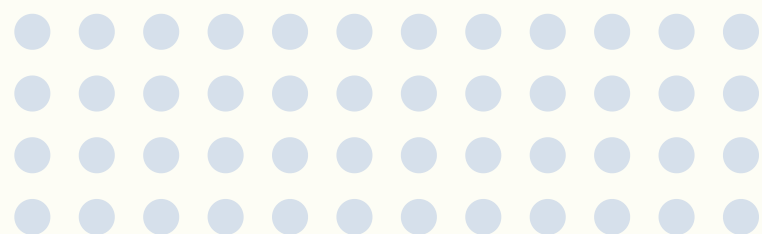
Ingests data from multiple sources automatically

Uses CatBoost ML model (currently for prototype) for dropout prediction (F1 Score: 89%)

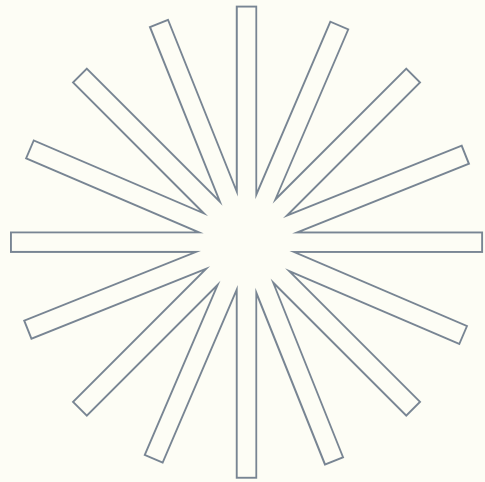
Applies clear rule-based thresholds for interpretability

Categorizes students into High / Medium / Low Risk

Sends timely alerts to mentors & guardians for intervention



Technical Approach



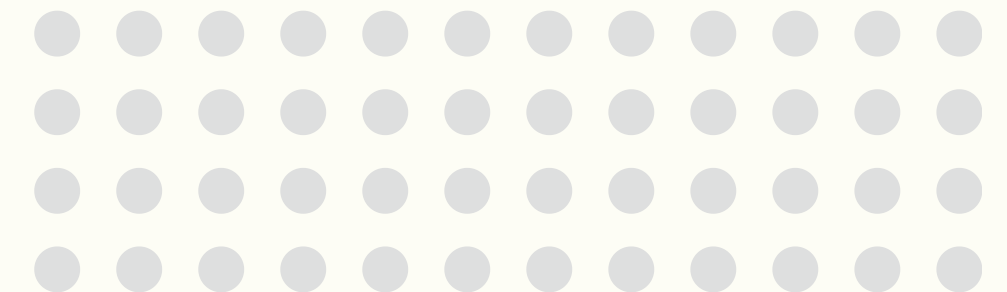
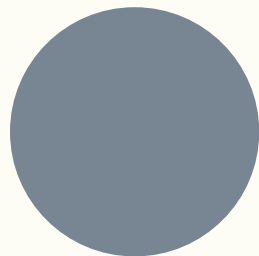
Data Fusion: Attendance + Assessment Scores + Fee Status + Engagement

Model: CatBoost Classifier → Robust on tabular + categorical data

Explainability: Feature importance ensures transparent risk reasoning

Workflow:

- Data ingestion
- Preprocessing & normalization
- Risk prediction (High/Med/Low)
- Dashboard visualization
- Automated notifications

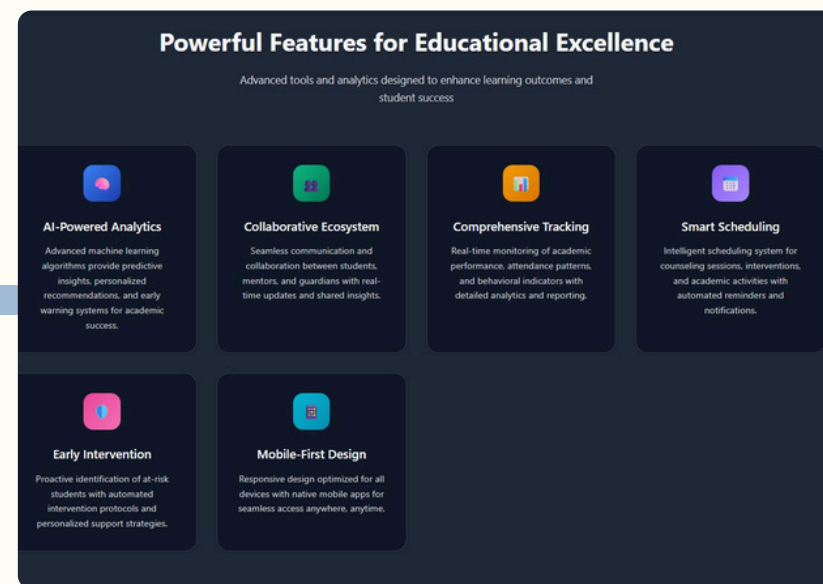


Dashboard Snapshots

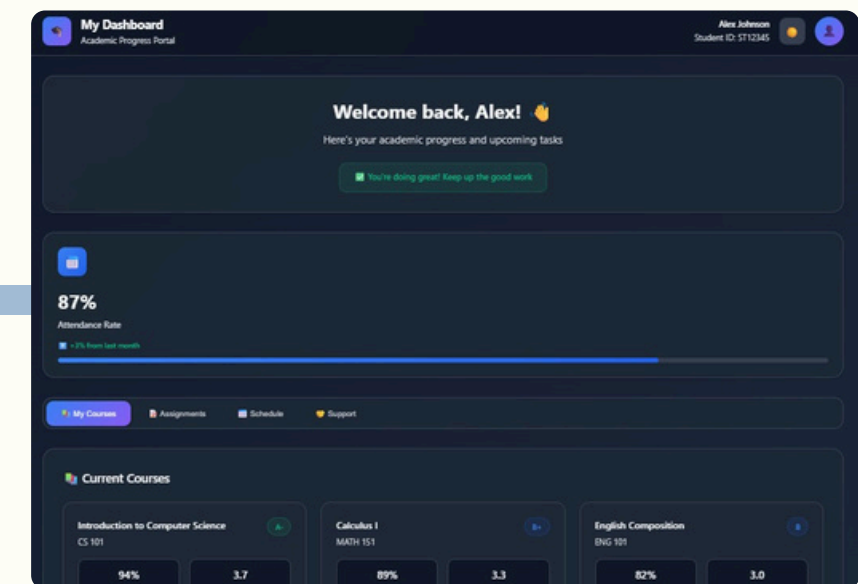
Smart home device automation



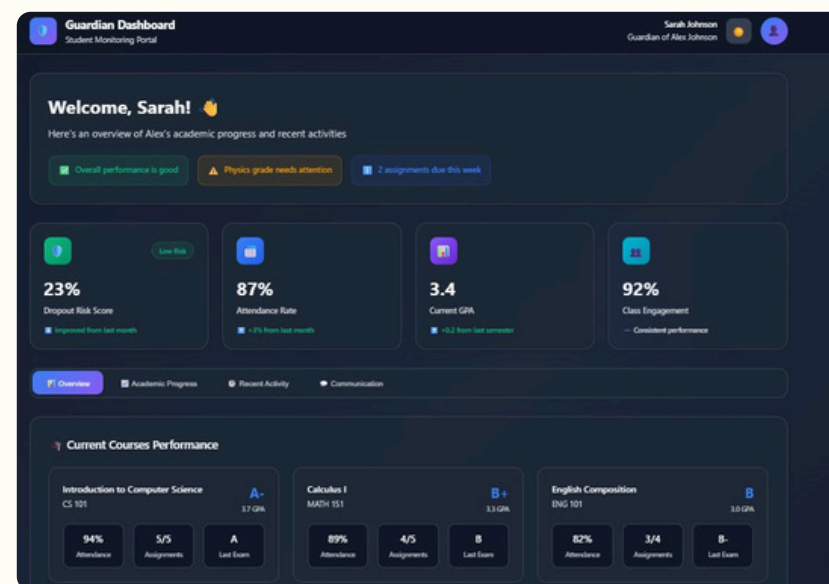
FEATURES



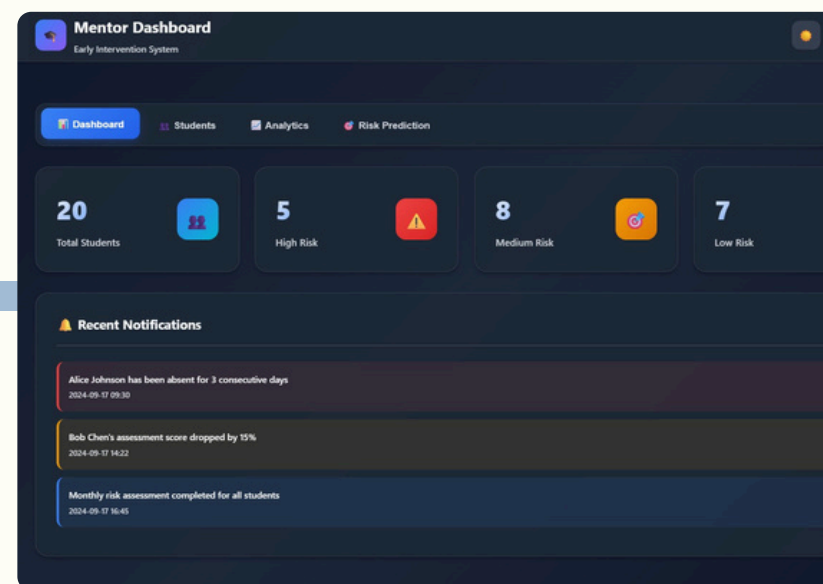
MY DASHBOARD



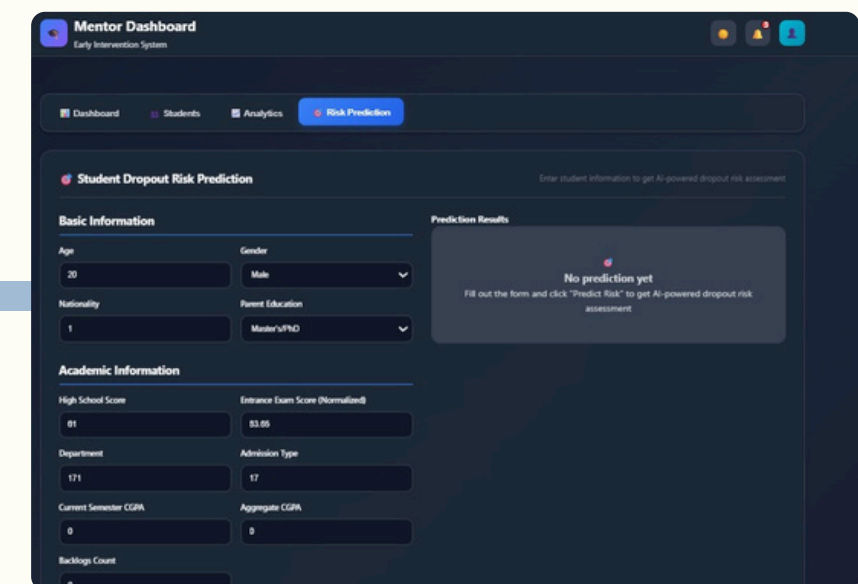
GUARDIAN DASHBOARD

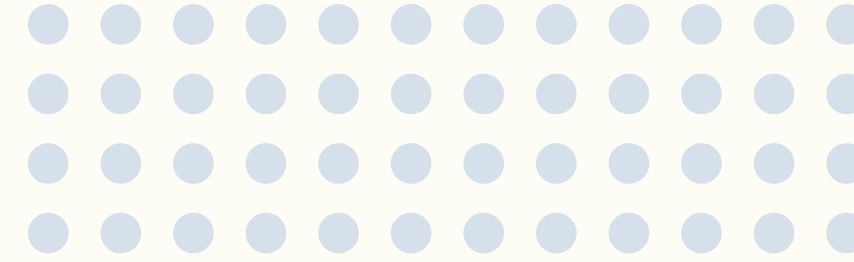


MENTOR DASHBOARD

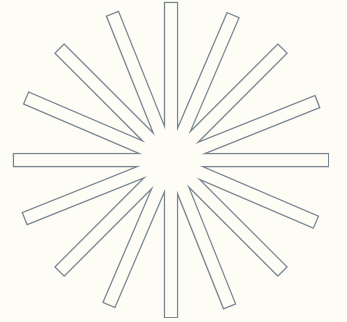


MENTOR DASHBOARD





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HACKATHON
2025**



Impact & Future Scope

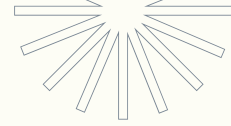
Impact

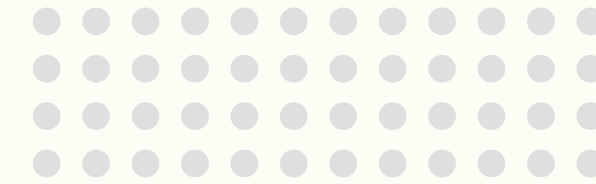
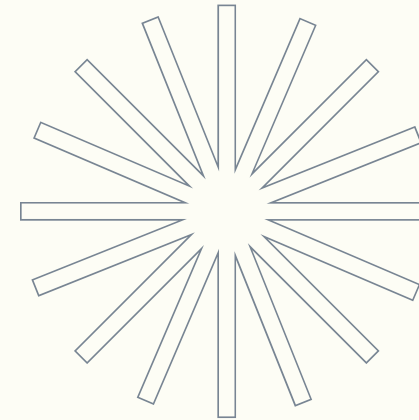
- Early identification of struggling students
- Reduces dropout rates through timely counseling
- Scalable, low-cost, and easy to deploy
- Empowers educators & guardians → data-driven decisions

Future Scope

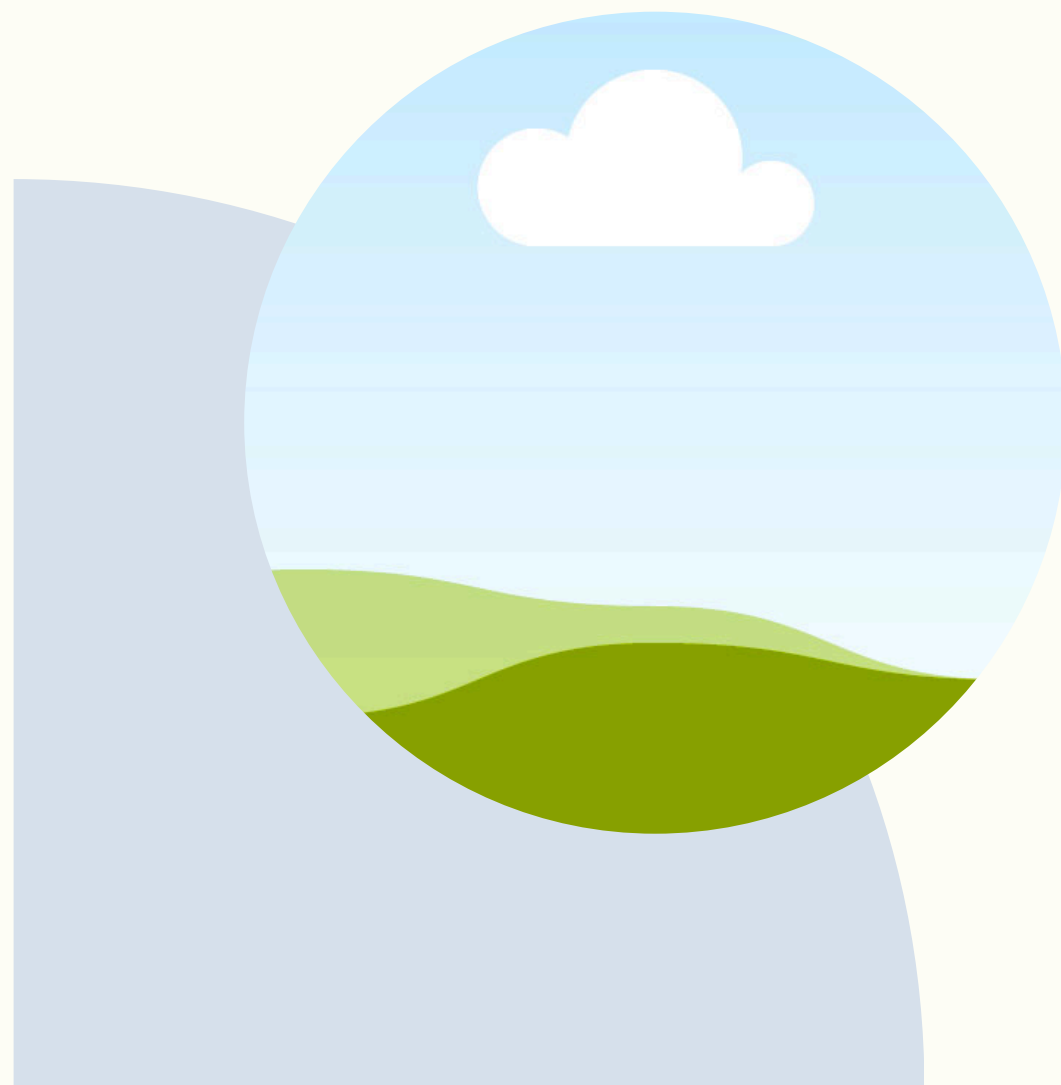
- Integration with ERP/LMS systems
- AI-based personalized counseling chatbot
- Expand beyond dropout → academic performance prediction & career guidance

Team Members:

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2. KSHITIZ -2023UEA6526
3. Varun Saxena -2023UCG7025
4. Harsh Goel -2023UEA6538
5. Manideep Singh -2022UIN3363
6. Rajashree-2023UCI6539



 @reallygreatsite



THANK YOU!

