Case Study 3

AI-Driven Exam Integrity and Fairness: The YouTestMe Platform as a Case Study

Abstract (Summary):This case study examines YouTestMe, an AI-powered platform addressing challenges in online exam integrity and fairness.
Key innovations include:
• AI AutoMarking: Automated essay scoring using NLP to evaluate semantic coherence, structural integrity, and linguistic accuracy, reducing grader workload while maintaining consistency.
• Automated Proctoring: AI monitors test-takers for suspicious behaviors (e.g., window switching, face mismatch) with 98% detection accuracy, ensuring exam security.
• Fairness Perceptions: Studies show students perceive AI algorithms as fairer than human evaluators, particularly in formative assessments
• Transparency and post-evaluation explanations further enhance trust in AI- driven results. The platform aligns with Responsible AI principles by prioritizing data privacy, auditability, and human oversight. For example, proctoring footage is stored for optional human validation, blending AI efficiency with accountability.

Theme of the Case Study:
- Automated grading and proctoring in online exams
- AI fairness and bias mitigation in educational assessments
- Human-AI collaboration for transparent evaluations
- Responsible AI implementation in high-stakes testing

Relevance to the Reader:
Educators/Institutions: Demonstrates how AI can streamline assessment workflows while addressing biases. The study highlights that AI fairness perceptions improve when evaluation criteria are transparent and explanations are provided.
AI Developers: Offers a model for integrating ethical guardrails (e.g., bias checks in training data, user consent protocols) into EdTech systems, as seen in YouTestMe's GDPR-compliant data handling.
Policy Makers: Illustrates the importance of standards for AI proctoring and automated grading, emphasizing the need for human-in-the-loop oversight to mitigate risks like algorithmic hegemony.

This case study provides actionable insights for implementing AI in assessments responsibly, balancing efficiency with equity.