ROSTA ? Development of an Automated Coffee Roaster with Roasting Profile Data

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This research project focuses on developing a coffee roaster temperature controller and data logger device. The device aims to regulate cooking temperatures in a coffee roaster, ensuring consistent and high-quality roasts. By logging data, the system learns roasting profiles and controls temperature based on that data through the PID-controlled valve. Rigorous calibration and testing demonstrate precise temperature control and accurate temperature measurement. The integration of a data logging feature allows users to monitor and analyze roasting profiles and temperature data. Phase 1 of the project successfully validates the device's functionality and establishes its potential for further enhancements. Recommendations for future phases include exploring high-resistance temperature sensors and considering ceramic materials for sensor protection. These recommendations aim to enhance the device's performance, precision, and overall user experience.

Leveraging Facial Expression Analysis During Assessment in an Employee Training and Onboarding Portal: A Measure of an Exam Taker's Assertiveness

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Digital transformation (DX) involves integrating digital technologies into business processes, products, solutions, and customer interactions. The education sector is no exception to DX. Educational institutions embrace DX in various ways, including staff training and assessment to effectively utilize new technologies. Revolutionizing staff training and assessment is crucial for staying relevant.\r\n\r\nThe study aims to create a portal for onboarding new employees and training existing ones in academic institutions. It will incorporate facial expression analysis to evaluate employee confidence during assessments. The portal provides training materials in various formats (text, images, videos), followed by assessments to gauge comprehension. Employees can track their progress, while facilitators and examiners generate reports via a dashboard.\r\n\r\nThe study focuses on using facial recognition and expression analysis to differentiate confident and unconfident exam takers. During exams, facial images capture expressions of confidence, doubt, and uncertainty. Computer vision algorithms analyze facial features, including landmarks and expressions. These features train machine learning models to assess exam results, guiding decisions on passing, retaking, or repeating the course.

Evaluating the Ethical Perception of Student in using artificial Intelligence for Research and Learning Outcome of Baliuag University Students.

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This study evaluates the influence of artificial intelligence on learning outcomes in the learning environment of Baliuag University students in relation to its perceived ethical considerations . With the increasing integration of technology in education, and accessible information through using of artificial intelligence, this study examines the mindfulness of students when it comes to ethical consideration.. The research aims to explore in particular, the usage of artificial intelligence, such as Chat GPT and Google tools. Employing a meticulously mixed-methods approach which includes the administration of surveys and qualitative questionnaire, data will be gathered to assess students' perceptions on ethics in using artificial intelligence in Baliuag University students' learning outcome. The results will offer valuable insights into effective methods for integrating interactive technologies into technological learning settings, benefiting educators, instructional designers, and students. This study contributes to the advancement of knowledge on technology-enhanced learning and informs educational practices for fostering meaningful engagement and optimizing learning experiences in higher education settings.