

JAGGERY PRODUCTION MONITORING AND MANAGEMENT SYSTEM

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ABSTRACT

The jaggery fabricating division is tormented by major issues concerning cleanliness, quality control, and wasteful obtainment. AI-driven computerized framework pointed at moving forward jaggery fabricating through guaranteeing cleanliness, optimizing generation, and streamlining obtainment. The frame work utilizes Convolutional Neural Systems(CNNs) for real-time image-based investigation and protest location, in this manner recognizing adulterants to guarantee high-quality benchma Besides that, machine learning algorithms like Random Forest and Gradient Boosting are utilized to estimate contamination threats with regard to raw material quality and environmental conditions. To enhance further the supply chain, crop health information is added for supply forecast so that the production pipeline will be steady, and the market trends are better. An easy- to-use digital platform is created, with web-based registration and login, e- commerce functionality, and an AI-based quality assessment tool to offer actionable insights to producers. The execution of the framework is measured in terms of Exactness, Accuracy, F1-Score, and AUC-ROC to guarantee its unwavering quality and productivity. This AI- based strategy moves forward generation effectiveness, minimizes wastage, and guarantees strict cleanliness hones, driving to a economical and adaptable jaggery generation prepare.