Smart Intelligent Pineapple Farming Assistant Agent (SIPFAA)

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Abstract

Pineapple cultivation has higher demand among the farming communities as a growing concern to engender foreign currency and as a means of earning more profit in the export industry of Sri Lanka. As a result, developing a good communication platform among the farming communities, experts and customers has become a key concern and would immensely contribute to its sustainability. According to our observations, key concerns to be addressed and supported by farmers on behalf of decision making to determine net profit for the yield are instructing to remedies for pineapple diseases at the right time, resolving issues during pineapple plantation, and getting guidance from experts in different phases of pineapple cultivation. Generating a product differentiation plan to gain the maximum benefit from the pineapple harvest is another goal that the proposed system would fulfill for farmers. The proposed mobile application solution, the Smart Intelligent Pineapple Farming Assistant Agent (SIPFAA), uses convolution neural networks (CNN) to identify diseases related to pineapples and uses a knowledgebase and chatbot to behave as a human counterpart. Further, a product differentiation plan would provide a sensible approach to gain a profit by analyzing the trends in the market while providing a recommendation system for buyer-seller interactions. As the initiators of applying these technologies to the pineapple domain, higher accuracy and a better harvest are expected through the proposed solution.

Keywords

Convolution Neural Networks, K- Means Clustering, Buyer-Seller Platform, Profit Optimization.