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Certificate

This is to certify that the Thesis entitled FOOD GRAIN QUALITY ANALYSIS USING IMAGE PROCESSING

submitted by GHUMAN HARPREET SINGH student of VIVEKANAND EDUCATION SOCIETY INSTITUTE OF TECHNOLOGY

for the award of the degree of M.E. / M.Tech / M.Sc. in ELECTRONICS

& TELECOMMUNICATION ENGG, for the period from JULY, 18 to JUNE, 19

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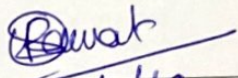
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CERTIFICATE

This is to certify that Harpreet Singh has completed the thesis on the topic FOOD GRAIN QUALITY ANALYSIS USING IMAGE PROCESSING satisfactorily in partial fulfillment for the Master's Degree in Electronics and Telecommunication under the guidance of Dr.Chandan Singh Rawat during the year 2018-2019 as prescribed by university of Mumbai.

Project Guide


20/7/19
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Abstract

Food consumed in daily diet consists of fruits, cereal grains and spices. Cereal grains are considered to be the most important part as it meets the nutrition needs of the human population. It is necessary to check the quality of food before consuming as it directly impacts on health. Rice is the most widely consumed staple food across the world. Individual kernel investigation is important for the quality analysis of a given sample. The manual technique for the same is time consuming and tedious approach. The results of manual analysis depend on the skill, attitude and vengeance of a quality inspector. An image processing technique provides a quick and easy means of investigating rice parameters. Amongst the various food analysis techniques this thesis focuses on the study of semi-automated, image processing and machine learning techniques with their advantages and limitations. This thesis presents the procedure for calculation of length, width and colour of rice kernels using image processing. The manifestation of proposed grain analyser set-up capable of analysing grain sample from all possible side is explained. The classification of seeds according to BIS, ARSO, CODEX and Cambodia standard is also illustrated in this thesis. A user friendly GUI is built in raspberry pi for easy determination of grade for given sample.