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## Development of Automatic Sesame Grain Classification and Grading System using Digital Image Processing Techniques

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Sesame is one of the most important agricultural products traded internationally where its flow in the market needs to comply with the rules of quality inspection. Ethiopia is one of the largest producers and exporters of sesame in the world. The country produces three types of sesame grains: whitish Humera, whitish Wollega and reddish Wollega. To be competitive in the market, it is essential to assess the quality of sesame grains. Ethiopian Commodity Exchange (ECX) currently uses a manual grading system to assess the quality of the product. However, this technique is time consuming, expensive, inaccurate and labor intensive. Accordingly, it is essential to have an automated system which rectifies these problems. Thus, in this thesis, we present an automated system for classification and grading sesame based on the criteria set by the ECX. The system takes pictures of sample sesame grains and processes the image to set the classes and grades. A segmentation technique is proposed to segment the foreground fro.

### Biography

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