# WASTELESS

# PRACTICE ABSTRACT

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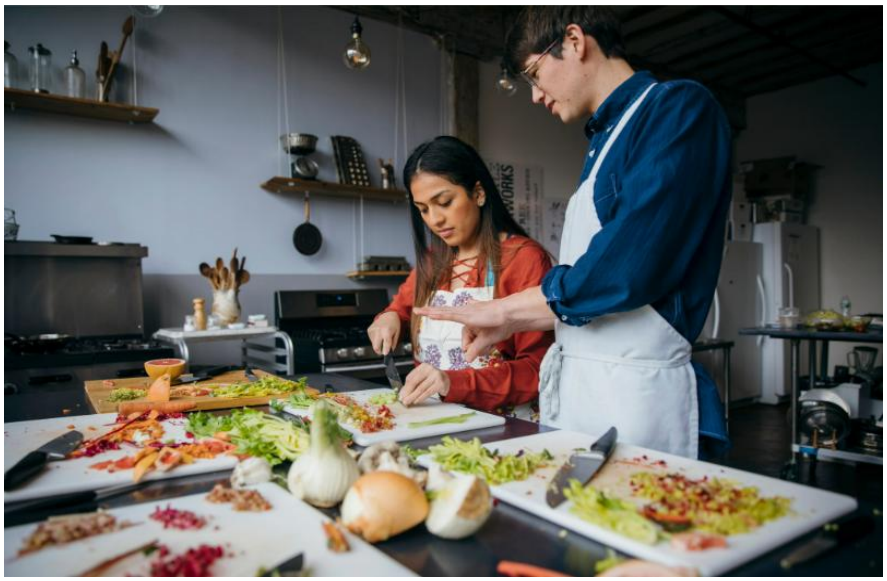
## Development of the WASTELESS computer vision-based image analysis model

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Consumers, Researchers, Funding bodies, Technology providers, others

*IMPLEMENTATION*

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WASTELESS - **Waste Quantification Solutions to Limit Environmental Stress**


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Large amounts of food are wasted every year, and reducing it requires comparable measurement. WASTELESS developed simple tools to record food loss and waste in different supply chains.

In Türkiye, developers ran controlled tests of an image-analysis tool that estimates fruit and vegetable waste by analysing photos for visible spoilage signals such as colour change.

The objective was to build and validate models that can convert what the camera sees into an estimated percentage of waste, as a basis for faster decisions and easier household measurement. Data were collected in a laboratory setting and strong correlations were reported between predicted and actual waste percentages for several items, including apples and peaches. Practical limitations were also clear: inferring 3D loss from 2D images introduces errors, separate models may be needed for different items, and the approach struggles with mixed produce sets. Foods where peels are typically discarded create additional ambiguity in what counts as "waste".

For practitioners, consistent image capture is essential: standard lighting, angles and background reduce noise and improve results. Outputs should include an uncertainty or confidence indicator, so users know when estimates are reliable. Before real-world deployment, models need calibration across varieties and household conditions. Clear rules are also needed for how to treat peel-related waste, otherwise comparisons between users and settings will be misleading.

## RESOURCES

Title/Description: Computer Vision-Based Image Analysis
URL: https://wastelesseu.com/tools/computer-vision-based-image-analysis/

## ADDITIONAL INFORMATION

The WASTELESS computer vision-based image analysis tool was developed by Hacettepe University. For further information contact burcea@hacettepe.edu.tr.

## DISCLAIMER

This Practice Abstract reflects only the author's view. The WASTELESS project is not responsible for any use that might be made of the information it contains.

## LICENCE



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