

Institut für Lebensmittelwissenschaft und Biotechnologie FG Lebensmittelinformatik (150L)

Masterthesis/Projectwork

Topic:

"Development of an Al-supported method for predicting the shelf life of fruits and vegetables "



Please note: If your study regulations allow, the thesis can be written in German.

Motivation

Consumers are often faced with the uncertainty of whether food - especially fresh produce such as fruit and vegetables - is still edible. This uncertainty is a major contributor to food waste. To counteract this problem, we are developing a non-destructive method combined with artificial intelligence to predict food freshness after purchase.

Goals

The main objective of this thesis is to precisely predict the freshness of food under real conditions. To this end, the shelf life of seasonal fruit and vegetables is to be systematically investigated in this master's thesis. Sensor-based methods (electronic nose) and parameters such as weight loss and color values (ΔE) are also recorded in order to be able to evaluate the freshness condition holistically. A central component of the work is the expansion and automation of an existing machine learning pipeline for processing sensor and image data. Based on this, various AI models for classifying and predicting the remaining shelf life are to be developed, compared and evaluated with regard to their informative value. The work requires independent work and an interest in measurement technology and machine learning in food research.

We offer

- Innovative work in the area of food quality monitoring
- Insights into modern sensor technology, data processing and AI
- Excellent working environment and support

Contact

Julia Senge, M.Sc. julia.senge@uni-hohenheim.de https://foodinformatics.uni-hohenheim.de/