TED UNIVERSITY

Faculty of Engineering

Department of Computer Engineering

Project Proposal

CMPE 491 – Senior Design Project I

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Name of the Project

Figion - Dried Fig Aflatoxin Analysis

URL of the Project Web Page

https://figion.tech/

Names of the Team Members:

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Project Description:

Aflatoxins are highly toxic and carcinogenic compounds produced by Aspergillus mold species, posing a serious risk to food safety. Their formation in foodstuffs is primarily driven by inadequate environmental conditions, such as high humidity and inappropriate storage temperatures. While high-precision laboratory analyses are used for segregation, this technique creates significant operational constraints in large-scale commercial settings due to its high cost and time-consuming nature.

This project aims for the rapid, low-cost, and automatic detection of aflatoxin-contaminated dried figs through image analysis under UV light. The yellowish fluorescence exhibited by aflatoxin-contaminated areas under UV light forms the fundamental basis of this method. With the aid of a prepared dataset, accurate classification of healthy and aflatoxin-contaminated figs will be ensured. This approach aims to accelerate pre-laboratory screening tests and reduce operational costs.