

Thesis Title:

Coffee Machine Assistance for the Visually Impaired: A Computer Vision-Based Mobile Application

Thesis Topic and Content:

This thesis addresses a specific challenge faced by visually impaired individuals in their daily lives by developing a computer vision (CV)-based mobile application. The project will focus on the accurate and rapid real-time recognition of coffee machines via a smartphone camera and guide the user on how to use the said coffee machines properly via voice instructions.

- Project will initially focus on recognizing a specific coffee machine model with high accuracy.
- The system will provide real-time audio feedback to guide the users through coffee making process.
- Application itself will be accessible and optimized for visually impaired users as well.
- Establishing a solid foundation for future research and enhancements such as extending support to other coffee machine brands and addressing additional user needs.

Thesis Output:

The primary objective of this thesis is to create an accessible and user-friendly functional application that assists visually impaired individuals with operating coffee machines independently.

- Clear and understandable voice instructions to the user.
- Fast response time.
- Highly accurate recognition of coffee machines under different circumstances such as different lighting, camera angles and so on.
- Visually impaired individuals use the coffee machine independently without external assistance.