



# INTERACTIVE IMAGE PROCESSING PLATFORM

Bridging Theory and Practice in Image and Video Processing



# Introduction to the image processing platform

# Frontend and backend components for effective learning



## Frontend design

A minimal, responsive UI enhances **user engagement** and promotes learning.

## Backend processing

FastAPI leverages OpenCV for efficient **image processing** and quick responses.

## Educational clarity

Core focus on clear **educational objectives** ensures students grasp concepts effectively.

# Key features of the platform

01

## Simple landing page

Offers essential educational information and easy navigation for users.

02

## Image upload and processing

Allows real-time image processing with interactive feedback and results display.

03

## Side-by-side comparison

Users can easily view original and processed images to understand changes.

04

## ZIP downloads

Supports batch processing and convenient image management for users.

# Key Image Processing Operations

01

## Transformation Techniques

Explore various transformations to manipulate image appearance.

02

## Edge Detection

Identify edges to enhance image features and details.

03

## Noise Management

Add or remove noise for clearer image processing.

# Project achievements and future enhancements



## Accessible learning

The platform offers **interactive education** for students in image processing.

## Future developments

Plans include **support for video processing** and improved user features.

## Enhanced functionality

Future enhancements aim to **expand processing capabilities** and user experience further.

# Thank you for your attention and questions



## Engagement fosters learning

Interactive  
discussions enhance  
understanding and  
retention.



## Future improvements planned

We aim to continually  
enhance the learning  
experience.

