# REFLECTION REMOVAL AI MODEL PRESENTATION

INNOVATIONS AND IMPLICATIONS

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GET STARTED

# INTRODUCTION TO REFLECTION REMOVAL AI




The model is designed specifically to handle reflection removal in images.

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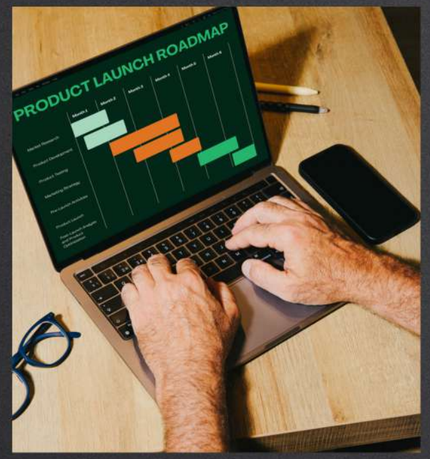
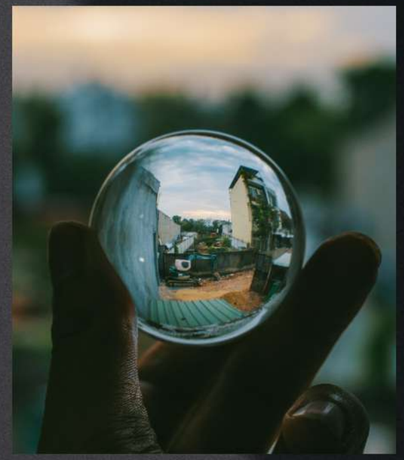
The technology finds applications in various sectors, improving image clarity in critical use cases.




The model employs sophisticated algorithms that enhance its performance in reflection removal.



Ultimately, the goal is to provide clearer images for better decision-making and user experience.

# OUR VISION



Understanding the Problem of Reflections

## Lighting Variations

- **Reflections vary based on light intensity and angles, complicating their identification**
- **The model must perform effectively in diverse settings, from bright outdoor conditions to dimly lit indoor environments.**

# PROPOSED AI SOLUTION OVERVIEWD A SUBHEADING



Isolating the reflection layer from the actual scene to prepare for further processing.

Utilizing labeled datasets of images both with and without reflections to train the model effectively.

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A systematic approach to reflection removal in images using AI techniques.

# PROCESS:TRAINING THE CNN MODEL

## Layer Composition

The model incorporates convolutional layers for effective feature extraction, pooling layers to reduce dimensionality, and fully connected layers for generating predictions.

## Training Dataset

The dataset consists of 100 labeled image pairs that illustrate the same objects both with and without reflections, essential for training accuracy.

## Optimization

Mean Squared Error is employed as the loss function to enhance output accuracy, focusing on extracting underlying image features to predict clear images.

# Dataset Composition and Training Process

- Utilized 128 images per batch for efficient processing, optimizing memory usage and training speed.
- The model underwent training for 50 epochs, ensuring it reached convergence for reliable performance.

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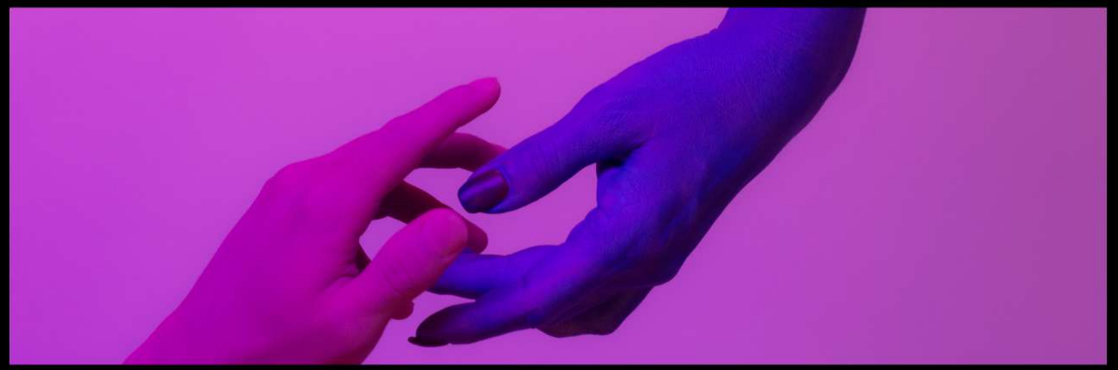
# EXPLORING REAL-WORLD APPLICATIONS



1. **Security and Surveillance:** Enhances visibility in security footage by removing window reflections.
2. **Photography:** Improves photo quality in reflective settings, such as museums and aquariums.
3. **Autonomous Vehicles:** Ensures clearer visibility by eliminating reflections from glass surfaces under various weather conditions.
4. **Additional Applications:** Drones and medical imaging can benefit from clearer images.

# FUTURE ENHANCEMENT





- Expand the Dataset: Include more complex reflection scenarios to improve model robustness.
- Integrate GANs: Explore the use of Generative Adversarial Networks for enhanced reflection removal capabilities.

# ThankYou