DETECT PIXELATED IMAGE AND CORRECT IT

Presented by Innovate intellects

Problem Statement

Our project deals with the problem of image pixelation. This means that low-resolution images become blurry, with a loss of clarity in terms of details, due to their enlargement. We look at developing advanced algorithms that employ proper deep learning techniques to precisely detect and correct pixelated regions within images. Generally, this step of depixelation leads to the quality enhancement of images so that they can be applied in any high-definition display application in varied industries.

Solution

Our solution deals with the pixelation of images using state-of-the-art deep learning methodologies. Convolutional neural networks are applied that accurately detect and localize pixelation in images. Next, a deep learning encoder-decoder architecture is applied that can de-pixelate those regions effectively, so high-resolution details may be restored for enhanced visual quality. This integrated approach enables our solution to render superior image enhancement across a wide array of digital applications and industries.

PROCESS FLOW
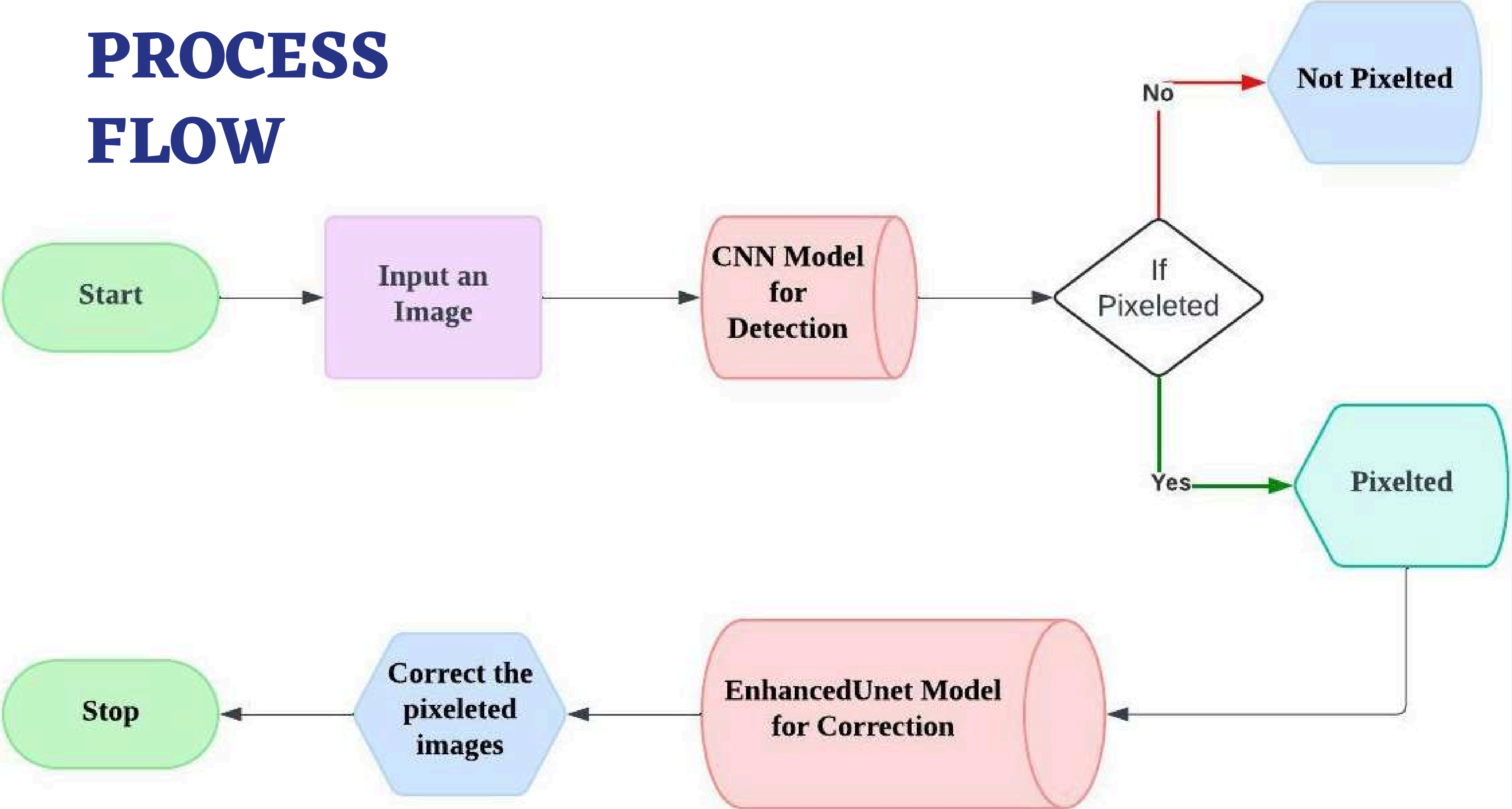
Technology used

1. python
2. tensor flow
3. keras
4. google cloud platform
5. scikit-learn

Meet The Group

LINGESHWAR

NISHANTH

PRAVEEN RAJ

MRITHUL
SNEHAL

JOHN
OSBORNE

Contribution

Each team member made significant contributions to our project on pixelation detection and depixelation. John Osborne curated and prepared the annotated dataset crucial for training our models. Lingeshwar G.J, Praveen Raj N, conducted thorough algorithm research, implemented models, and optimized them for pixelation detection and depixelation. Mrithul Snehal and Nishanth analyzed algorithm performance, fine-tuned models, and implemented effective depixelation solutions. Together, through collaborative effort, we integrated components, conducted rigorous testing, and ensured the seamless operation of our depixelation solution across diverse applications, achieving our project's objectives effectively.

conclusion

In other words, our project has developed and implemented a leading-edge solution in image pixelation detection and correction. We have designed large improvements in the clarity and quality of images through state-of-the-art techniques like convolutional neural networks and deep encoder-decoder architectures. All this was possible because of good teamwork and a vigilant approach to researching algorithms, processing dataset preparation, and model implementation to build a strong solution that empowers visual content across a wide array of digital platforms and

professional applications. Looking ahead, we remain firmly committed to the ongoing task of refining our techniques and not leaving any stone unturned in finding new avenues for deploying our solution situationally in real-world scenarios.

THANK YOU