**Paper Title:**
Deep learning models for digital image processing: a review

**Paper Link:**
https://link.springer.com/article/10.1007/s10462-023-10631-z

## 1 Summary

### 1.1 Motivation
The paper is motivated by the need to understand the strengths and weaknesses of various image processing techniques, especially the high computational demands of modern Deep Learning models compared to traditional methods.

### 1.2 Contribution
The paper's primary contribution is a comprehensive review of both traditional and DL models for tasks like image denoising and enhancement. It categorizes prominent models and highlights their performance and challenges.

### 1.3 Methodology
The authors conducted a literature review, analyzing and classifying a wide range of academic papers to compare different image processing methodologies.

### 1.4 Conclusion
The review concludes that while DL models are superior in performance, their high computational cost is a significant barrier to practical application. Overcoming this resource challenge is key to future progress.

## 2 Limitations

### 2.1 First Limitation
As a high-level review, the paper does not provide deep technical or implementation details for the specific algorithms it discusses.

### 2.2 Second Limitation
The paper's findings are inherently limited by the scope and potential biases of the existing research it references.

## 3 Synthesis
This review validates my project's focus. It academically establishes that high computational cost is a major problem in modern image processing. My project, which uses GPU acceleration, directly tackles this well-documented challenge, making the paper a key justification for my work.