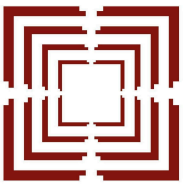

Ahmedabad
University

ECE501 Digital Image Processing

Digital Image Watermarking and Extraction

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Course Information

Course faculty	**Prof. Mehul Raval**
Group Number	**20**

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1. Introduction

This week, we improvised on the work that we had been doing in the past week. We had applied a hybrid DCT + DFT approach in order to enhance robustness against multiple image distortions while maintaining acceptable visual quality and correlation during extraction. We thought upon the results and tweaked around to see if it gives better outcomes or no

2. Implementation

We tested the watermarked images against a variety of attacks, including Gaussian noise, rotation, scaling, and JPEG compression. We further normalized the results and tested repeatedly in order to gain a better outcome.

3. Conclusion

Work done in this week:

- Implemented hybrid domain watermarking (DFT + DCT).
- Evaluated hybrid approach under multiple attack conditions.
- Compared performance metrics (PSNR and NC) with DFT-only method.
- Identified potential improvements for geometric attack resistance.

Work to be done in the next week:

- Introduce geometric normalization or feature-based registration to improve robustness against rotation and scaling.
- Understand the effect of three factors that influence the watermark, imperceptibility, robustness, and payload.
- Work on drafting the final results, and summing up the findings