# Image Quilting for Texture Synthesis and Transfer

**Project Report**
**CS 663: Digital Image Processing**

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based on the paper by
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# Contents

# Chapter 1

# Introduction

## 1.1 Problem Statement

The paper we have implemented seeks to solve the problem of generating unlimited amount of image data from a given sample of texture in such a way that the generated images would be perceived as the same texture.

Furthermore, the paper uses the same approach in transferring texture from one image to the other.

## 1.2 Abstract of the Paper Implemented

We present a simple image-based method of generating novel visual appearance in which a new image is synthesized by stitching together small patches of existing images. We call this process image quilting. First, we use quilting as a fast and very simple texture synthesis algorithm which produces surprisingly good results for a wide range of textures. Second, we extend the algorithm to perform texture transfer – rendering an object with a texture taken from a different object. More generally, we demonstrate how an image can be re-rendered in the style of a different image. The method works directly on the images and does not require 3D information.

# Chapter 2

# The Algorithm

# Chapter 3

# Dataset Description

# Chapter 4

# Our Implementation

# Chapter 5

# Results

# Chapter 6

# Conclusion