# IMAGE PROCESSING

A Web App written in JavaScript that combines various image processing techniques and methods built with React.

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# Introduction

This project uses JavaScript and the power of the browser to manipulate images using the techniques provided in class. ReactJS is used to design the UI. The README file located in the root directory of the project contains installation instructions and some other technicalities.

# Techniques

All the techniques listed in the Assessment spec except for Line/Edge detection and Morphology were implemented in the web app. The reason why I left the last two out is because I ran out of time.

The algorithms used in class were converted to JavaScript from Matlab code. For the segmentation of binarized images, I used the Two-Pass filter that is outlined in this Wikipedia article: https://en.wikipedia.org/wiki/Connected-component_labeling. The algorithm is presented in pseudo-code but I managed to convert it to JavaScript.

To show the histogram of an image I used a module called Plotly (https://plot.ly/) that can plot various graphs. The histogram changes with each modification for the image.

There is also a file called **fourier.js** that includes a function that can convert an image into the Fourier domain but I didn't use this functionality.