

Pic Match

Stereograph images, a type of image popular in the 19th and early 20th centuries that creates a 3D illusion, served as one of the two main interest points in our project.

This project explores the potential of computational tools for identifying stereograph images and creating depth maps from them, offering a time saving solution of cataloging old image libraries.

Focusing on old images of Jerusalem and Israel, the lower quality and various artifacts posed significant hurdles for creating an efficient solution for identifying this type of images.

However, leveraging python vast abilities together with external libraries (ImageMagick), we developed a web-based tool (using Streamlit) where you can perform multiple actions with your image -

- **Crop / split image** - useful when digitizing old images from albums with borders. ImageMagick's library flexible abilities were important in this section.
- **Stereo images identification** - based on multiple heuristics including X and Y axis pixel consistency, this tool performed above our expectations with high success rate. Using python's cv2 library was extremely crucial for the development of matching keypoints to detect similarity between the two sides of a stereo image. We tested several thresholds and ran multiple grids to identify the optimal configurations for this tool.
- **Depth map** - Leveraging a [third-party API](#), the identified stereograph pairs undergo further processing to generate depth maps.

This project demonstrates the potential of computational tools for enriching our understanding of historical imagery. By automating the extraction of depth information from stereographs, this work lays the groundwork for further exploration of historical narratives through a 3D lens.

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