Algorithmic Cloud Pictures: Transforming Clouds Into Similar Objects
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Motivation
The phenomenon known as pareidolia accounts for our ability to recognize objects in amorphous objects. This project attempts to algorithmically find objects in clouds where patterns do not exist.

The goal is to create a game in which a user can take a picture of a cloud, and then guess what the phone morphs it into.

Processing Pipeline
Client Side
- Cloud Image (RGB)
- Display Morph Sequence

Server Side
- Pre-Process Cloud Image
- SIFT Keypoint Detection
- Intermediate Images Morphing
- Database Query Feature Match

Methods
- HSV Threshold
- Contrast Enhancement
- Adaptive Histogram Equalization
- Quantization
- Edge Detection
- SIFT Feature Detection
- RANSAC Affine Matching
- Image Morphing with interpolation [Moradi, “Morphing in Matlab”]

Database
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<tr>
<th></th>
<th>WOLF</th>
<th>BUNNY</th>
<th>PLANE</th>
<th>ROSE</th>
<th>TURTLE</th>
<th>DRAGON</th>
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<tbody>
<tr>
<td>Contents:</td>
<td>40 Objects</td>
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Future Work
Issues:
- Slow morphing algorithm (~80% of run time)
- Optimize server code
- Larger database for better matches