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The original goal for this project was to replicate a Paper With Code (found at this link: <https://paperswithcode.com/paper/dank-learning-generating-memes-using-deep>). This paper explores generating unique memes from already existing memes. This is achieved by stripping text from a corpus of memes scraped from the internet and then adding text to the one fed into the meme generator.

We branched off from the original paper and took an independent route to produce memes that cater more to our generation's sense of humor. We took the base concept and used Scale Invariant Feature Transform – which detects all important features in an image, then determines image similarity by how many features are matched between the pictures — to find the most similar memes and then uses the corresponding text to create meme captions that are then added to the image.

What we learned through this process was how to use an OCR to identify the text within the images to add to our corpus of relevant memes. We also explored the Reddit API in order to access memes from meme subreddits to accrue data. Furthermore, we explored the usage of the Markov Chain, which we used to generate relevant captions based off the corpus of related memes. Although we did not implement it in our final product, we also learned how to mask and inpaint images with text/markings on them to cover up the text on the similar memes. We found an alternative solution, which was simply just using the original image, but, regardless, it was an interesting learning experience on that front.

Our deliverable is a hosted website that takes an image that does not have text and then identifies similarities between the inputted image and the images scraped to identify correlated

text and then output a meme. Although our model is not perfect, it generates memes that our team describes as “spicy”!

(Also, worth noting, due to security issues related to Heroku and Github, [Heroku has halted Github deployment for the next few weeks](#), so we were not able to deploy the generator through Heroku. It’s currently running on an AWS EC2 instance, so Randolph may have to spin it back up if it crashes. We’ll try to keep it running as long as possible, but stuff happens. Just send him a Slack if you need him to check on it.)