Understanding Advertising Creative

Running machine learning over digital creatives to gain insights on industry trends

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Project Description

With digital advertising surpassing one hundred billion dollars of spend in the US in 2018, every company is trying to figure out how to communicate with the American consumer in modern digital mediums. This project attempts to understand what verbiage, color schemes, layouts, and call to actions companies are employing to maximize the efficiency of their ads.

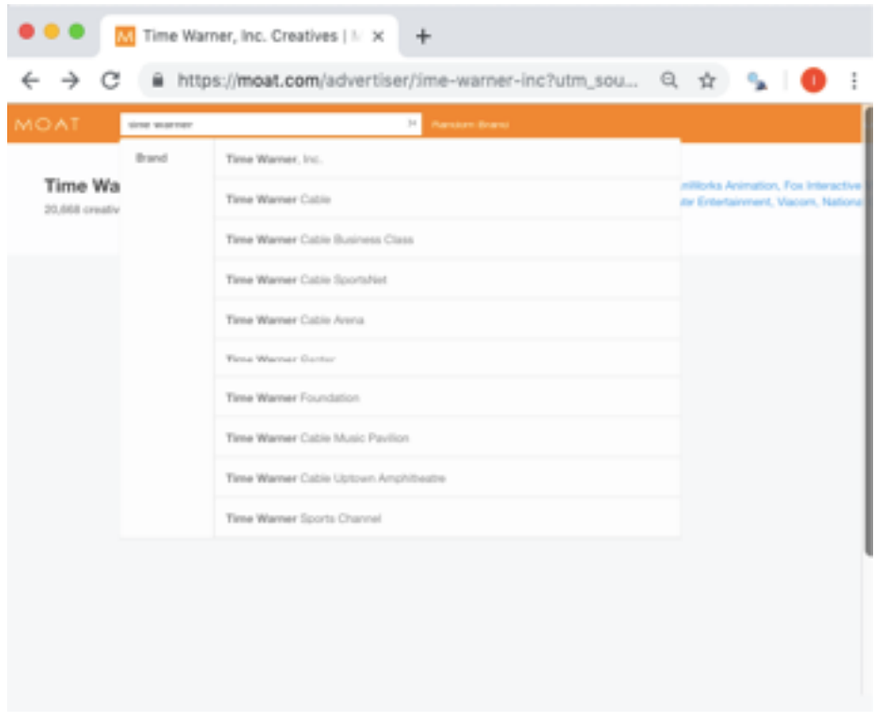
The primary phase of the project was to scrape MOAT pro to pull down creative from over 500 companies from the past eight years.

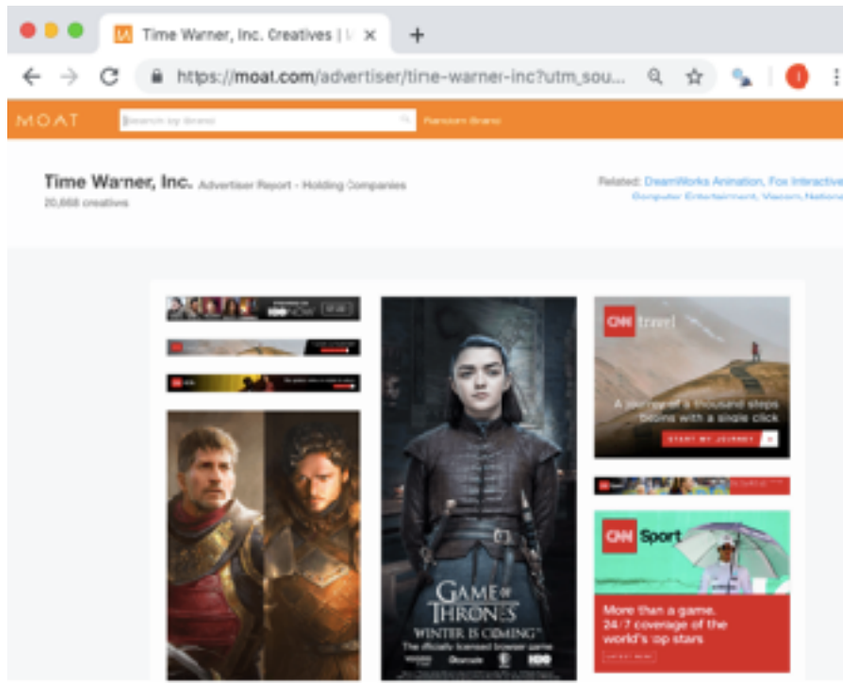
Data Pipeline

MOAT's HTML Delivery

Company request

AJAX data delivery





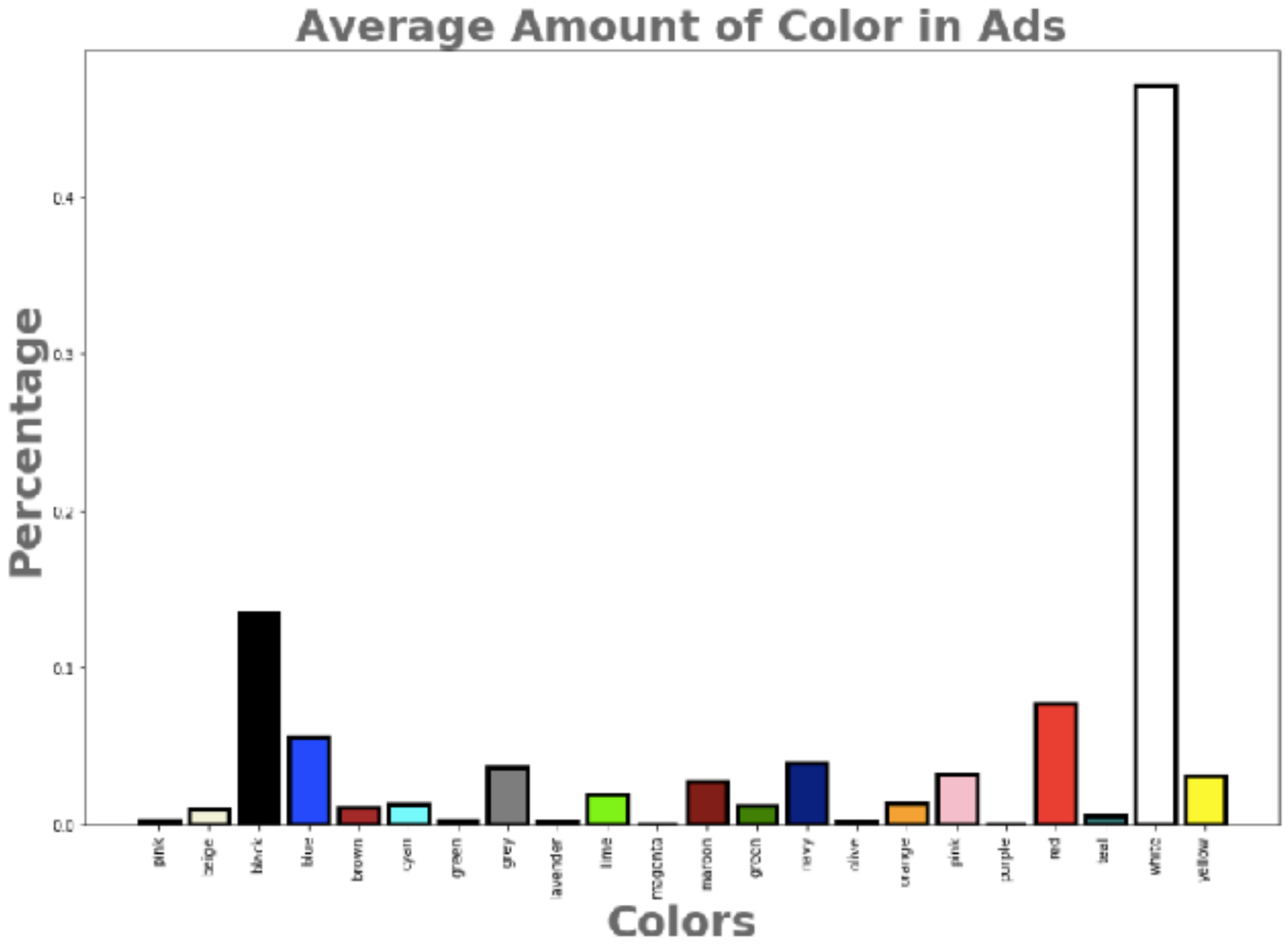
Scrapy and Splash were employed to scrap advertising creative off MOAT. After calling for a predefined company, the code captures a JSON file being pushed through an AJAX call that is updated using JAVA on the site. Once gathered, meta data regarding the image is stored in a dataframe along with a link to the image which is saved down onto the hard drive.

Upon completion of collection and cleaning, the image is then sent into Google's Vision AI API and processed. Currently three modules are loaded into the system which read and pass back all the text, labels the creative, and finally passes back what colors are being used and what fraction of the creative they take up.

Understanding Trends in Color Usage

The software “rounds” each color passed back from Vision AI into 22 predefined buckets. The graph on the right shows the Average amount each color is being used across the sample data set (n=200)

In the future, this technology will be used to understand the differences in color choices between industries, trends in color over time, which could help understand how colors are chosen to alter psychographic perception of a brand



Note: the sample used to generate this graph was relatively small because of Vision AI load capacity

Digesting the Language of Advertising

Vision AI scans each image and passes the verbiage back into a list which will be used to understand the most commonly used key phrases and calls to action.

Note: the sample used to generate this graph was relatively small because of Vision AI load capacity

Conclusions and Next Steps

Because the majority of the week was spent collecting data and connecting pipes, the project is not yet at a stage to draw any major conclusions

Next steps include tying time series data to the existing data set to understand changes over time. In addition, categorical data is being laid over the data set to learn more about differences in industries, size of companies, as well as comparing major competitors to each other.