Image Analyzer

Visual Insight Tool for Image
Ranking and Analysis

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Project Overview

Resource: Pexels (Free HD Image Source)
Tool Used: Google Charts

Description:

A Python-based project that fetches images from Pexels using user-defined keywords, analyzes their visual properties, ranks them based on computed metrics, and visualizes results interactively through Google Charts.

Goal:

To create an automated and insightful way to evaluate and visualize image quality.

Existing ▶

Most platforms like Pexels or Unsplash rank images only by popularity metrics such as downloads, likes, or views.

This approach doesn't account for visual quality

Agent analyzes images using objective visual metrics ; colorfulness, resolution, and clarity to rank them based on aesthetic and technical quality rather than user behavior.

◀ # Proposed

Working

1. Fetch top N images from Pexels API based on keyword.
2. Compute Visual Metrics:
   a. Colorfulness: measures image vibrancy using pixel variation.
   b. Resolution: derived from image width × height.
3. Generate Combined Ranking Score using weighted averages.
4. Display Bar Chart Visualization via Google Charts.
5. Show Image Thumbnails and allow top image download.
6. Tech Highlight: Uses NumPy and Pillow to quantify image color distribution.
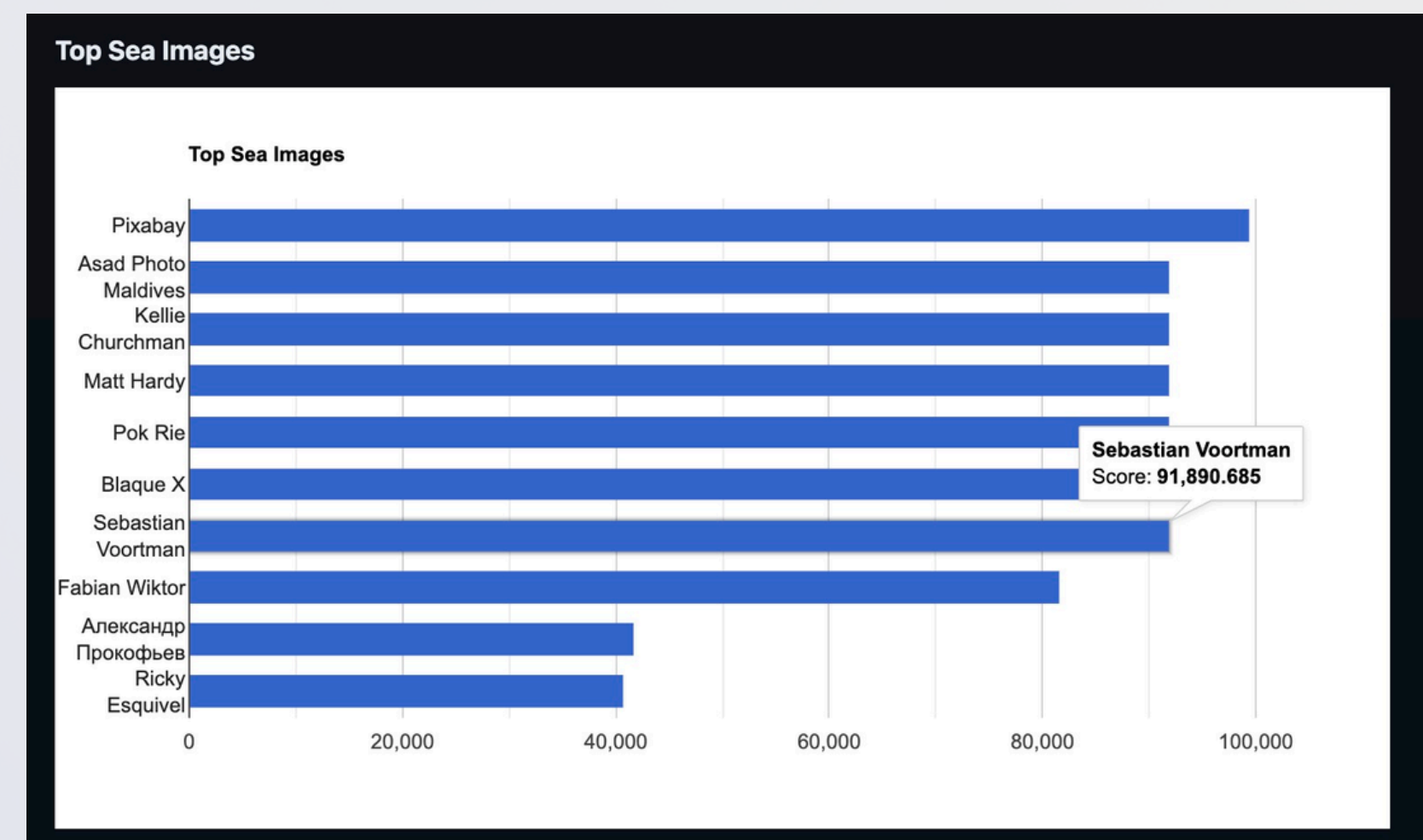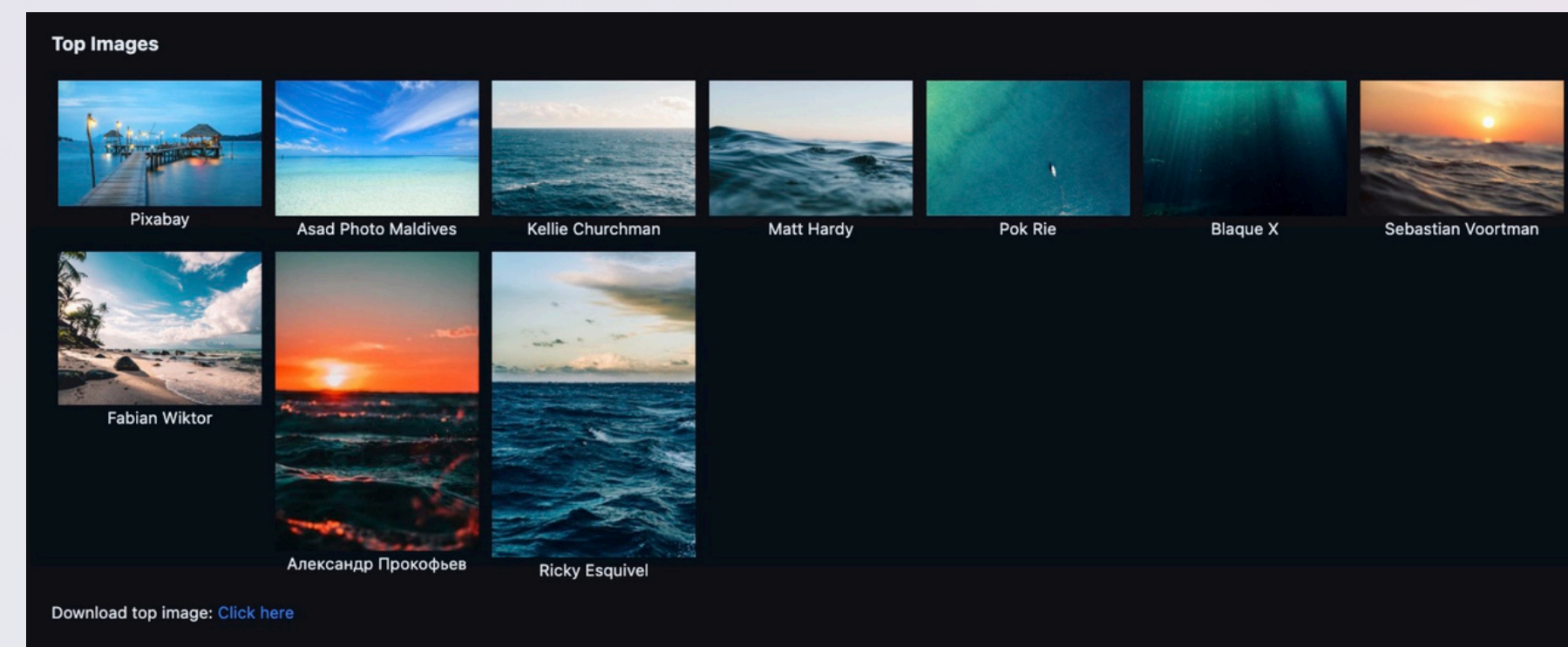
Output

Chart Output (Google Charts)

- Interactive bar chart comparing scores.
- Hover tooltips show each image's name, score, and resolution.

Image Gallery

- Inline display of thumbnails for quick visual reference.

Top Image Download Option

- Fetches highest-ranked image and provides downloadable link.
- All displayed dynamically using IPython display functions.

Thank You

Pexels Image Analyzer ranks images by visual quality using metrics like colorfulness and resolution.

It employs Python automation and Google Charts for data visualization.

This approach makes image selection smarter and more objective than popularity-based methods.