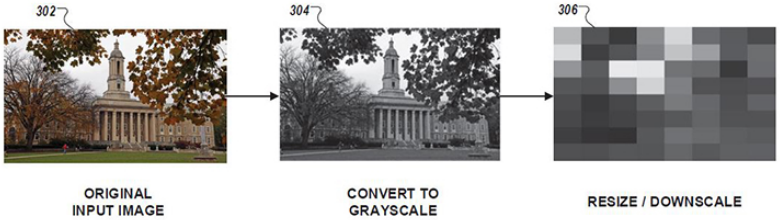
Video Search Algorithm

ID# 2017-4705



Polynomial-based Image Characterization

Technology Summary

A new algorithm for reverse video searches has been developed that uses an alternative method to compare hash values of images, so that the hash values are insensitive to noise and other sources that cause discrepancies between the input image and the indexed image. This technology accounts for any unpredictable differences in hash values by computing the absolute difference between the grayscale of a pixel and that of the average grayscale, and then uses polynomial interpolation to encode the grayscale values into a polynomial. In the end, only the coefficient vectors are recorded for each image. By comparing the coefficients, one can find similar images. The figure shown above illustrates part of the process for polynomial-based image characterization of a particular input image.

Application & Market Utility

This technology allows users to perform a more precise video search than previous reverse imaging search methods. By inputting an image frame from a video, users can now find their particular video without being limited by inaccurate video search results. As a result, users will no longer have to scroll through countless episodes of their favorite T.V. show in order to re-watch their favorite scene!

Next Steps

Seeking research collaboration and licensing opportunities.

TECHNOLOGY READINESS LEVEL 1-3

Seeking

Investment | Licensing | Research

Keywords

- reverse image search
- video search
- locality sensitive search
- image search

Researchers

Sencun Zhu
Associate Professor
Website

Yuanyi Sun

Originating College
College of Engineering

Office of Technology Management Contact
Rokita, Joseph
jjr152@psu.edu
814-863-6336