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In these studies modern methods for finding of key points are considered -. SIFT, BRISK, AKAZE and ORB. They were compared on the simplicity of implementation, performance and reliability of the image searching. The analysis results of this searching methods and comparison of their possibilities were confirmed in experiments.

The research results showed that quantitative comparison of the methods of determining key points gives an opportunity to conclude that ORB search method provides the highest speed, satisfactory accuracy and the smallest descriptor of the image. At the same time, the search was carried out not only for this image, but also for its fragments according to different types of transformations of samples.

Therefore, this method may be recommended for use in further research and image search systems to determine the optimal values of hash functions that ensure reliable search results using key points.

The searching results permitted to improve image search systems, used for different fields and to create more effective software system.

**Key words:** *collection of images, perceptual hash algorithm, image binarization, Hamming distance SIFT, BRISK, AKAZE, ORB.*

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### **СРАВНИТЕЛЬНЫЙ АНАЛИЗ МЕТОДОВ ОПРЕДЕЛЕНИЯ КЛЮЧЕВЫХ ТОЧЕК ПРИ ПОИСКЕ ИЗОБРАЖЕНИЙ ПО ФРАГМЕНТАМ**

Представлен анализ наиболее распространенных методов поиска подобных изображений с использованием ключевых точек. Проанализированы результаты экспериментальных исследований выбранных методов по скорости работы и точности поиска изображения. Сформулированы практические рекомендации по выбору оптимального метода.

**Ключевые слова:** *коллекции изображений, ключевые точки, дескрипторы, расстояние Хемминга, SIFT, BRISK, AKAZE, ORB.*