SYBA Descriptor

ID: 2017-043

Executive Statement:

An innovative feature descriptor for efficient and accurate image matching in vision applications.

Technology Overview:

The SYBA descriptor is a groundbreaking invention that utilizes synthetic patterns to generate robust feature descriptors for vision applications, focusing on computational simplicity and efficiency. Designed to facilitate the identification and matching of salient features between images, it is particularly useful for tasks requiring high accuracy in feature matching with minimal computational resources, such as visual odometry.

Key Advantages:

- High accuracy in feature matching with low computational demand
- Adaptable descriptor size to meet specific application requirements
- Utilizes synthetic basis functions for enhanced performance under various image deformations
- Includes a variant, r
- SYBA, offering rotation and scale invariance

Problems Addressed:

- Reduces drift in camera motion estimation for visual odometry
- Enables accurate feature matching in resource-limited systems without heavy computation
- Addresses the short baseline limitation in visual odometry with a novel algorithm

Market Applications:

- Embedded vision systems
- Real-time feature matching for visual odometry
- Image-based navigation and mapping
- Any vision-based task requiring efficient and robust feature description