

Low-powers smart imagers for vision-enabled sensor networks

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Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=20418235&lokasi=lokal>

Abstrak

This book presents a comprehensive, systematic approach to the development of vision system architectures that employ sensory-processing concurrency and parallel processing to meet the autonomy challenges posed by a variety of safety and surveillance applications. Coverage includes a thorough analysis of resistive diffusion networks embedded within an image sensor array. This analysis supports a systematic approach to the design of spatial image filters and their implementation as vision chips in CMOS technology. The book also addresses system-level considerations pertaining to the embedding of these vision chips into vision-enabled wireless sensor networks.

Describes a system-level approach for designing of vision devices and embedding them into vision-enabled, wireless sensor networks, surveys state-of-the-art, vision-enabled WSN nodes, Includes details of specifications and challenges of vision-enabled WSNs, explains architectures for low-energy CMOS vision chips with embedded, programmable spatial filtering capabilities, includes considerations pertaining to the integration of vision chips into off-the-shelf WSN platforms.