A Method and System for Feature Extraction and Decision Making from Series of Images

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Technology description

Background

Skin cancer, as well as any type of cancer, is a serious medical condition that can be fatal if not detected promptly and properly treated. In most cases, diagnosis is made after a visual inspection that determines that an abnormality could be malignant. However, in an effort to conservatively catch all incidents of cancer, doctors tend to perform the biopsy procedure in any case where there is doubt. Therefore, the large majority (>90%) of biopsies that are taken turn out to be healthy tissue. This causes undue suffering and discomfort to healthy individuals, and also increases the risk of not catching serious skin cancers early enough when doctors try to avoid this intrusive procedure in the first place.

Technology Description

Researchers at the University of New Mexico and SKINfrared, LLC have developed a complete imaging and analysis system for the detection of skin cancer that can offer doctors and medical technicians an entirely passive, non-intrusive, way of detecting skin cancer. This concept is based on the principle that healthy tissue has different thermal properties than diseased tissue and by examining these differences, the system developed will give doctors a better idea of whether the abnormality is or is not malignant. This system is comprised of six stages which work together for proper functioning of the entire system. The most relevant part of such a technology is the procedure and methodology that enables the decision making from images acquired by the proposed imaging system.

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Application area

The present development is the core of the decision making algorithm reported by the researchers in specialized journals
The power of the technology enables the utilization of different applications, for example, if some stages are slightly changed, it can be used to classify mineral in rock for a geological survey
Regarding the medical applications, in the future could be adapted to a "home test" that patients could use in their home to routinely detect their risk

Institution

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