

Licensing and Technology Transfer Opportunity: Manipal University

Title of Technology Available: Detection of Foot Complications

Brief Description of Invention: The present subject matter described herein, in general, relates to a field of health care, more particularly to detection of foot complications in subjects.

Brief Background of Invention: Generally, diabetic subjects suffer from foot complications and vascular diseases. The foot complications comprise foot ulcer, foot infections, nerve damage, and numbness. The foot complications are mostly caused due to poor blood circulation, high blood sugar, muscle weakness, and sensation loss. One of the risk factors considered for early detection of the foot complications is plantar temperature. The plantar temperature indicates temperature of a plantar area of the foot. The temperature of the plantar area is generally high in diabetic peripheral neuropathy and low in peripheral vascular disease than non-diabetic subjects.

Describe the final product: The system for detecting foot complications comprises of a device with plantar temperature sensors embedded at strategic locations for sensing temperature, a memory, and a processor. Sensor points for a right plantar area of a right foot, and left sensor points for a left plantar area are identified. A processor coupled to the memory wherein the processor is configured to execute instructions stored in the memory to determine temperature values associated with right sensor points, and left sensor points. The system detects the foot complications based on a comparison of the difference value with a predefined threshold value.

Technological Domain (Keywords): Plantar temperature, temperature sensors

Proof of Concept:

Stage of Development:

Ideation/Prototype/**Advanced Prototype**/Ready to Market technology

Provide Information on Competitors who manufacture and/or sell similar products: NA

What are the unique advantages your innovation has compared to the competition: The data in real time from the smart sensors are analysed by the system and message sent to the doctor who in turn can provide treatment advice.

A few potential companies who might be interested in this technology: Companies related Healthcare diagnostics.

Intellectual Property Status: Indian Patent application with number 201841049616(LRN: P4255-IN) filed in 2018

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