FZI Press Release

Five Institutes of the Innovation Alliance "Innovationsallianz Baden-Württemberg" Receive EUR 1.7 Million for the Research on AI-based Tumour Diagnostics

By receiving the allocation decision for the planned project "Intelligent Diagnostics", five institutes of the Innovationsallianz Baden-Württemberg obtain EUR 1.7 million funding by the state government under the leadership of the FZI Research Center for Information Technology. In the following 18 months, it will be worked on the intelligent tumour diagnostics at various locations in Baden-Württemberg. The joint project of the Innovationsallianz Baden-Württemberg (innBW) contributes, through the use of quantitatively imaging techniques as well as artificial intelligence (AI), to the intelligent diagnostics of skin tumours.

Karlsruhe, *30.10.2019* – So far, the visual examination of patients by physicians has been one of the most important pillars of the diagnostics of skin tumours. In order to confirm a diagnosis, physicians analyse what they see. Many patients are familiar with the ABCDE approach. Based on this approach, the size, shape, colour, diameter and disease progression can qualitatively be evaluated. The larger the diameter and the more irregular a skin spots is, the higher is the probability that this is a skin tumour.

Can artificial intelligence (AI) help to diagnose skin tumours? Yes, says Christoph Becker, manager of the project "Intelligent Diagnostics" at the FZI: "Artificial intelligence provides a considerable added value, where large amounts of data are used. Already now, AI is used in the field of diagnostics. In doing so, ten thousand digital images are being classified, in order to subsequently make a suggested diagnosis on the basis of a new image."

In the framework of the joint research project, data shall be systematically collected and models shall be trained, in order to expand the AI-based identification of malignant melanoma. The FZI is responsible for the development of the data- and model management platform in the project: "In order to further improve the diagnostics, we need better data for the training of the artificial intelligence. This means: In the framework of the funding, we will systematically establish datasets and control the management of the models by means of the platform. Quantitatively imaging techniques are used for the data collection that enable a significant increase of the data size per image. The aim is to take the digital, medical diagnostic of skin tumours to a new level, using quantitatively imaging techniques and improved AI models.

The project has a duration of 18 months and is funded by the Ministry of Economic Affairs, Labour and Housing Baden-Württemberg. The following institutes of innBW are involved: FZI Research Center for Information Technology, Institute for Laser Technology in Medicine and Measurement Technique (ILM) at the University of Ulm, Hahn-Schickard Institute in Villingen-Schwenningen, Hahn-Schickard Institute in Stuttgart and the NMI Natural and Medical Sciences Institute at the University of Tübingen.

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About the FZI Research Center for Information Technology

The FZI Research Center for Information Technology, with its head office in Karlsruhe and a branch office in Berlin, is a non-profit institution for applied research in information technology and technology transfer. Its task is to provide businesses and public institutions with the latest research findings in information technology. It also qualifies young researchers for their career in academics or business as well as self-employment. Led by professors from different faculties, research teams at the FZI interdisciplinarily develop and prototype concepts, software, hardware and system solutions for their clients. The FZI House of Living Labs provides a unique research environment for applied research. The FZI is the innovation partner of the Karlsruhe Institute of Technology (KIT).

Further Information

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