Press release

Artificial Intelligence revolutionizes skin cancer detection

Harmless birthmark or dangerous melanoma? Deep learning supports dermatologists

BAD BIRNBACH, Germany: "Artificial Intelligence" (AI) is currently on everyone's lips. Experts say companies need to focus on three aspects of AI to play a leading role in the topic: latest programming insights, importance of data and AI integration into existing workflows. FotoFinder Systems already combines these key aspects today. As a pioneer, the high-tech company is a leader in integrating AI into technology for skin cancer diagnostics. With the new expert software Moleanalyzer pro, dermatologists are able to assess moles with AI. Validation results confirm an extremely high accuracy.

High-tech meets specialist expertise

Moleanalyzer pro offers physicians the possibility to confirm their diagnosis with various evaluation techniques. For the first time, it is possible to combine specialist expertise with AI and additionally to receive a second opinion – per mouse click – from renowned international skin cancer experts.

AI in dermoscopy

Moleanalyzer pro works with deep learning: The human ability to learn from examples and experiences was transferred to the computer. For this purpose the "Convolutional Neural Network" (CNN) was trained with the currently largest data collection of dermoscopic images including corresponding diagnosis. Due to many years of valuable cooperation with physicians worldwide, the continuous "feeding" of the algorithm succeeds. With growing experience and its own autonomous rules, it is able to distinguish between benign and malignant lesions. The result is a score that supports the risk assessment of both melanocytic and

non-melanocytic skin lesions. Shortly, this AI Score will be available for doctors also on mobile devices.

Validated, precise, self-learning

According to the representative study "Man against machine"*, the deep learning algorithm showed an impressively high sensitivity by correctly identifying 95% of malignant skin tumors. In the comparison group, the experts – 58 dermatologists from 17 nations – identified 86.6% of the lesions as malignant. The algorithm also showed a reliably high specificity by identifying 82.5% of benign nevi correctly, while the experts identified 71.3% as benign.

Artificial Intelligence meets human experience

As fascinating as AI is, it cannot replace human experience in the matter of skin cancer. In the end, the doctor decides what to do. In case of doubt, Moleanalyzer pro offers a second opinion service from internationally renowned skin cancer specialists to confirm the diagnosis.

About FotoFinder Systems

Founded in 1991 the German company is specialized in skin cancer diagnostics by means of Automated Total Body Mapping, digital dermoscopy, in hair diagnostics, psoriasis documentation and imaging in aesthetics. Subsidiaries in Italy, Spain, UK and the U.S. and a global partner network support the company's worldwide presence. FotoFinder won the Bavarian Export Award, Red Dot Design Award and was honored as one of the most innovative companies in Lower Bavaria.

* "Man against machine: diagnostic performance of a deep learning convolutional neural network for dermoscopic melanoma recognition in comparison to 58 dermatologists", by H.A. Haenssle et al. Annals of Oncology. doi:10.1093/annonc/mdy166

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