



RadSpeech – Mobile Speech Dialogue for Radiologists

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- Make dialogue-based radiology image reporting possible
- Reduce turn-over times and annotation errors
- Facilitate structured reporting

Clinical care and research increasingly rely on digitized patient information. There is a growing need to store and organize all patient data, including health records, laboratory reports, and medical images. Effective retrieval of images builds on the semantic annotation of image contents and intelligent interaction with the image material.

The problem with current technology is that a clinician cannot directly create a structured report while scanning the images: In this eyes-busy setting, he can only dictate the finding to a tape-recorder. After the reading process, he can replay the dictation to manually fill out a patient's finding form or delegate other personnel. But since the radiologist has to check the form again, task delegation does not save time. With our technology developed over the last 5 years, we developed the first mobile dialogue system on the iPad and iPhone, which is tuned for the radiology domain and makes the complete system unique. Our solution not only provides more robustness compared to speech-to-text systems, it also fits very well into new radiology reporting processes which will be established in Germany and the U.S. over the next several years (structured reports, directly creating digital findings, instead of hand-written forms which are manually translated). A mobile iPad and iPhone dialogue application can be used to annotate image volumes and ask questions about the image annotations (while engaging the clinician in a natural speech dialogue).

With the iPad's FDA approval, a breakthrough for mobile medical imaging, especially in the U.S., can be expected. With RadSpeech, we aim to build the next generation of intelligent, scalable, and user-friendly mobile semantic search and image annotation interfaces for the medical imaging domain.

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