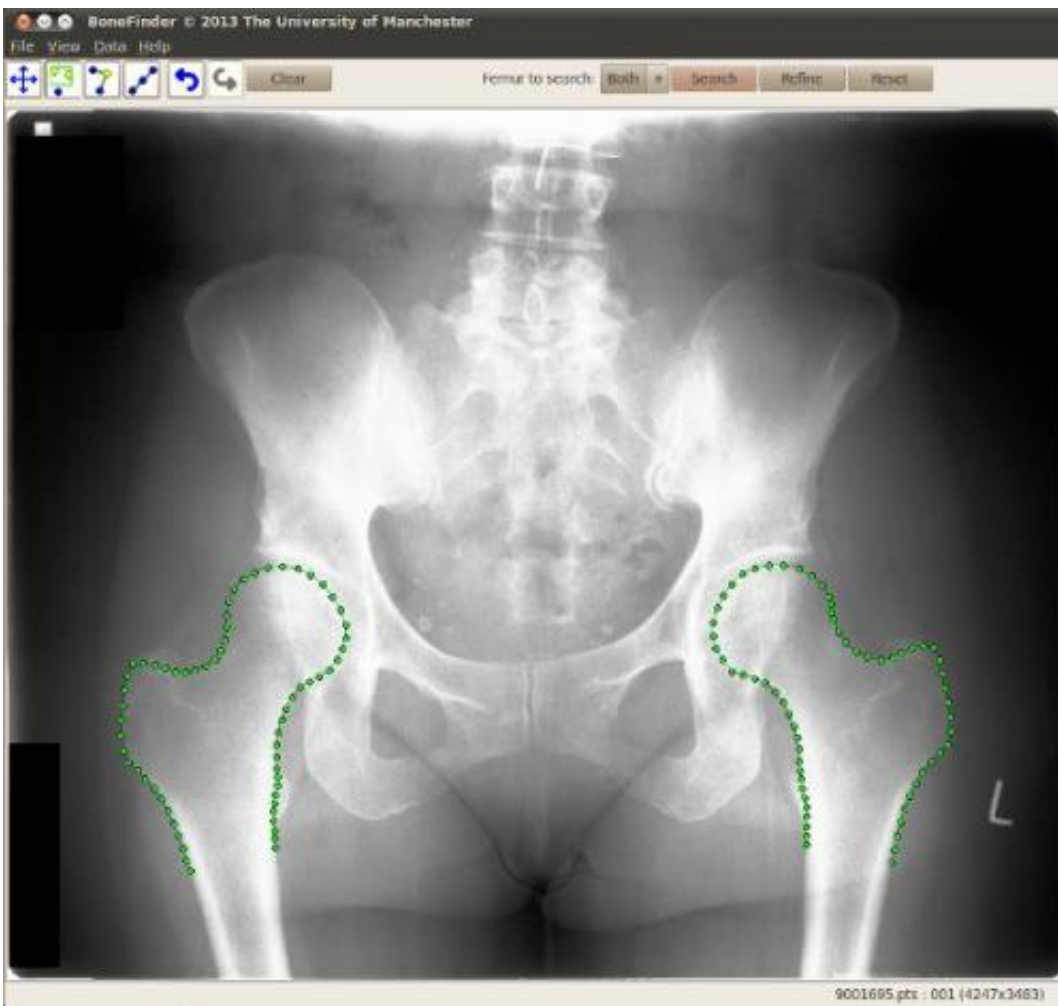# Software to automatically outline bones in X-rays

November 13 2014

Bonefinder image showing an outline of hips. Credit: University of Manchester

Amidst a national shortage of radiographers in the UK and an increasing

requirement for researchers to work with large databases of radiograph images, the software which is being funded by the Engineering and Physical Sciences Research Council, is being designed to automatically pick out the shapes of bones in the images, rather than relying on individual researchers.

The system can already identify hips, but the researchers from the University's Institute of Population Health will now adapt it to map out knees and hands and to be able to learn to identify other bones and structures within the body.

The funding will allow further development to ensure the system is accurate enough that it can be used in hospitals to help provide faster diagnosis of problems in patients.

Professor of Computer Vision, Tim Cootes said: "Mapping the outlines of bones from radiographs is hard work that takes time and skill. When researchers into conditions like arthritis are working with hundreds of images, it's a very inefficient way of obtaining data.

"The idea of this software is to take the routine tasks out of human hands , so scientists can focus on drawing conclusions and developing treatments."

The funding of £300,000 lasts for three years and builds on earlier work which developed software, called Bonefinder, to identify problems and find the outlines of hips. This free software has been adopted by a number of research groups, including some based in Oxford and California.

Professor Cootes added: "We have a growing problem with arthritis which affects more than 30% of over 65s and costs around £30 billion to the UK economy year.

"Ultimately we want to get this technology into hospitals where it can save time and resources for the benefit of patients."

Provided by University of Manchester

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