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BoneFinder (www.bone-finder.com)

Award-winning medical imaging software for the placement of bone outline markers

BACKGROUND

Many diseases are linked to changes in bone morphology. In some instances a change in bone shape (in comparison to a healthy person) is indicative or even diagnostic of a particular disease or condition and may be used as a screening tool. In other cases, bone shape may change as a disease progresses and can be used to determine the appropriate treatment plan and to track its effectiveness.

Routine clinical practice is dependent on clinicians manually marking out bone shape - a time-consuming and subjective process with inconsistent results.

What is required is a system that can automatically, rapidly and accurately mark out the outline of any bone type to allow classifciation and quantitative analysis. However previous attempts at automation of the landmark placement have been hampered by overlying soft tissue structures and have not produced very accurate results.

THE TECHNOLOGY
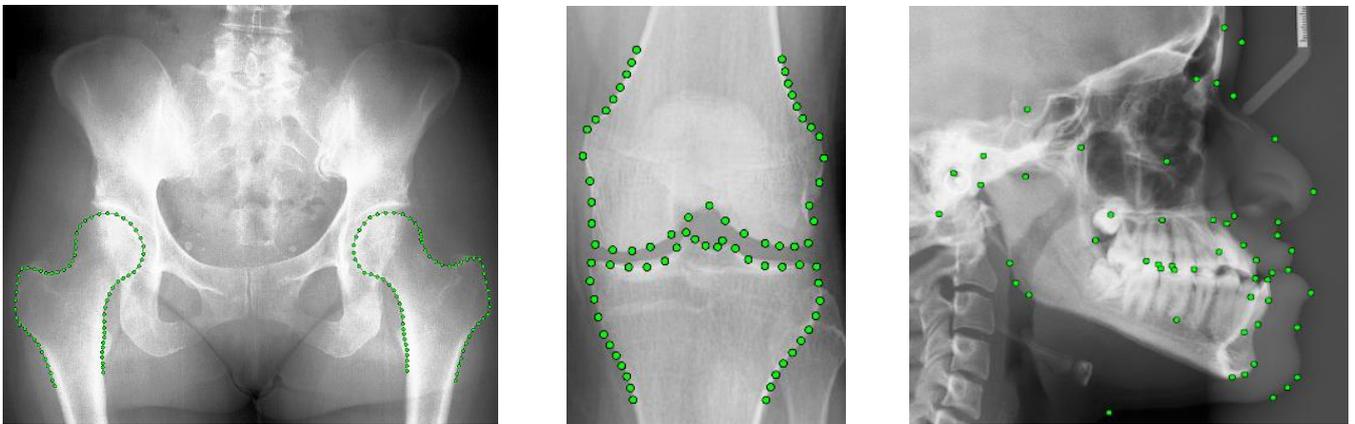
BoneFinder is the most accurate and robust software for outlining bone shape that has been developed to date. The main benefits of this technology lie in its consistency and the speed with which it can automatically mark up bone outlines in radiographs (X-rays), CT reformats or DXA images. The sophisticated machine-learning algorithms that power BoneFinder (patent details overleaf) are independent of any clinical application area - thus the system can be used to outline the shape of any bone for which a model has been developed. There are currently BoneFinder models for **knees, hips, hands and skulls**.

BoneFinder won 1st prize in the 2015 ISBI Grand Challenge for dental X-ray image analysis.

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KEY BENEFITS

- Fully automatic detection of structures in images.
- Fast and accurate detection of features, landmarks and object outlines.
- Quantitative analysis and statistical modelling of bone shape.
- Analysis of images from a range of imaging platforms (radiographs, CT and DXA).
- Utility in any skeletal application area.

APPLICATIONS

- Outlining the bone shape of any skeletal structure.
- Automatic detection of structural features in clinical practice.
- Pharmaceutical trials or research to quantify shape changes due to disease or treatment.
- Use by doctors for the diagnosis of facial growth abnormalities, evaluation of progress during treatment and examination of the result.
- Use by dentists & orthodontists for cephalometric analysis of lateral images of head.
- Use by oral and maxillofacial surgeons for diagnosis and treatment planning of defects in the head, neck, face and jaws.
- Use after an operation to evaluate treatment and growth changes.

INTELLECTUAL PROPERTY

Granted European Patent (UK, DE, FR) EP2893491
Patent in prosecution (US) US 14/423,961

OPPORTUNITY

We are seeking **licensing & development partners** in the **medical and dental imaging** markets. We would like to hear from **software development companies** that produce plug-in, **after-sales software** and from the **manufacturers of medical imaging platforms** who wish to incorporate BoneFinder into their **existing software product offerings**. We also welcome interest from any organization which wishes to collaborate on the development of models for new skeletal structures.

CONTACT

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Further information about BoneFinder can be found at www.bone-finder.com

BoneFinder can be licensed at https://www.click2go.umip.com/i/s_w/Bonefinder.html