Our Offer

The AI-model is available in various widely used formats, allowing for seamless integration into the target system. We offer customized integration models from deploying trained models to developing fully interactive GUI applications.

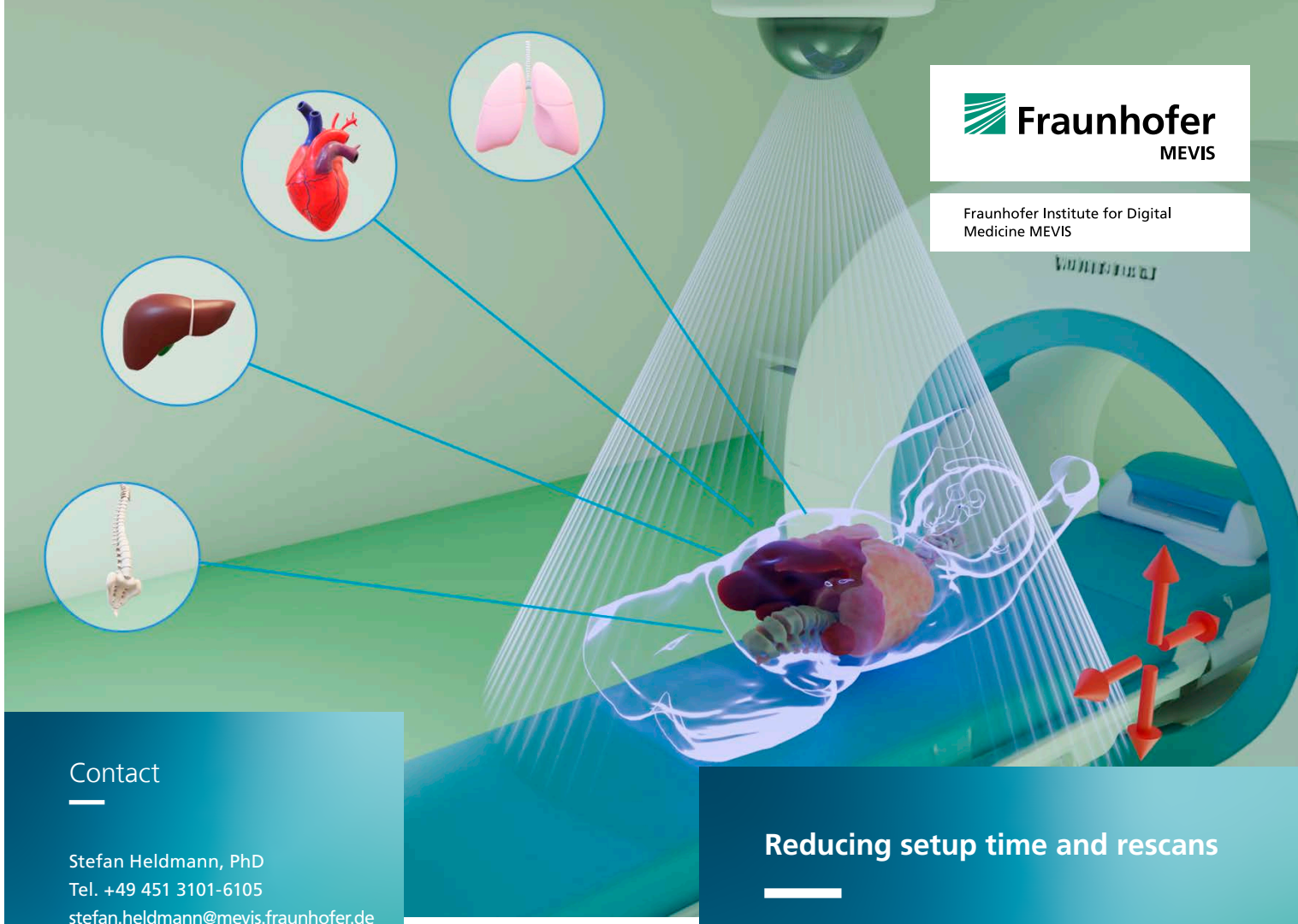
We provide professional support for all aspects of implementation, ensuring smooth integration of our solutions tailored to the specific requirements of our partners.

Since 2005, our institute has operated under a certified quality management system in compliance with EN ISO 13485, enabling us to deliver medical device components to our partners with comprehensive documentation and support.

For a personal demonstration, technical or licensing inquiries, please contact our experts. We are here to provide customized solutions tailored to your needs.

About Fraunhofer MEVIS

We collaborate with clinical and industrial partners to translate cutting-edge medical computing research into impactful, safe, and efficient solutions that enhance diagnostic and therapeutic procedures. Through rapid prototyping, modular development, and certified quality assurance, we bridge the gap between research and clinical application.



Fraunhofer MEVIS

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Reducing setup time and rescans

AI-Guided Organ Sensing for Automatic Table Positioning

Solution

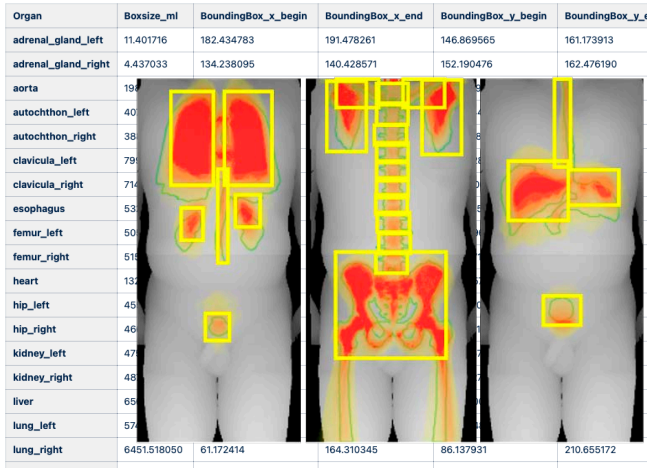
Our solution streamlines MRI/CT acquisition by offering AI-models to automatically position the patient table using real-time depth sensing.

From a single 2D depth camera image, our model accurately infers 3D locations of more than 50 organs.

It automatically guides scouts and centers fields of view, enabling significantly reduced setup time and rescans.

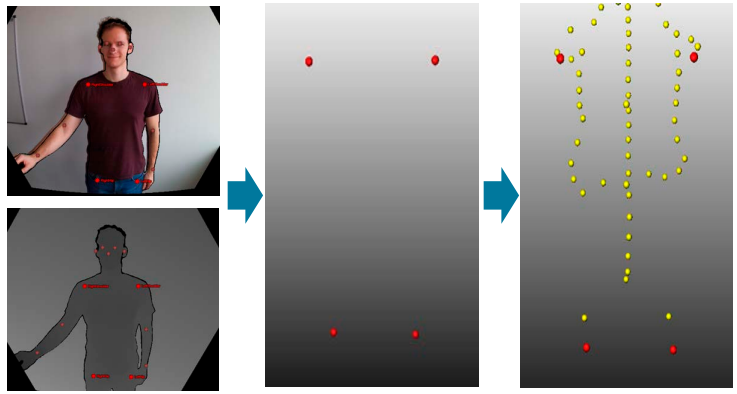
The result: faster, more consistent imaging workflows - less manual effort for radiology staff and shorter, safer, more comfortable scans for patients.

Trained on a large whole-body MRI cohort of around 10,000 cases, our model generalizes to any body type without contact or radiation. It delivers robust, centimeter-scale localization and immediate visual feedback.



Organ	Boxsize_ml	BoundingBox_x_begin	BoundingBox_x_end	BoundingBox_y_begin	BoundingBox_y_
adrenal_gland_left	11.401716	182.434783	191.478261	146.869565	161.173913
adrenal_gland_right	4.437033	134.238095	140.428571	152.190476	162.476190
aorta	19				
autochthon_left	40				
autochthon_right	38				
clavicula_left	79				
clavicula_right	71				
esophagus	53				
femur_left	50				
femur_right	51				
heart	13				
hip_left	45				
hip_right	46				
kidney_left	47				
kidney_right	48				
liver	65				
lung_left	57				
lung_right	6451.518050	61.172414	164.310345	86.137931	210.655172

Probability maps for prediction of selected organs



Detect keypionts on RGB image and retreive depth information

Transform keypoints points to 3D

Use AI-model to infer organ positions

Benefits

1. **Smarter, automated patient positioning for MRI and CT**
   Enhances table alignment precision through intelligent automation, reducing setup time and improving scan accuracy.

2. **Radiation-free technology for every body**
   Adapts seamlessly to all body types and sizes - contact-free and without radiation.

3. **Efficiency in every scan**
   Delivers faster scanning sessions for patients while reducing the physical and manual workload for radiology staff.

4. **Higher patient throughput for clinics**
   Enables clinics to serve more patients in less time, optimizing workflow and maximizing scanner utilization.

Key Features

Prediction of Human Anatomy from Body Surface

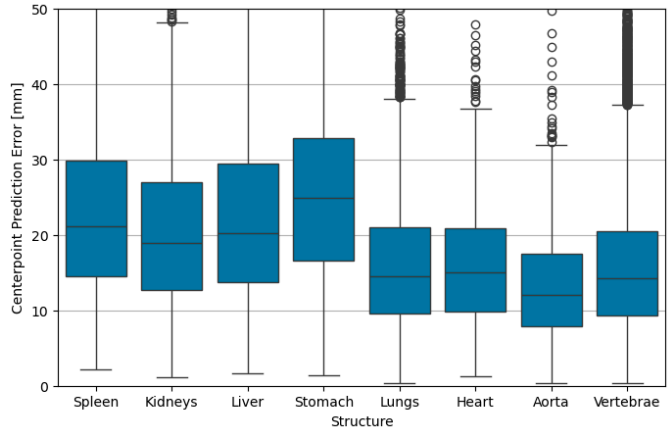
Purely based on a depth camera image, we can predict the centers and bounding boxes of anatomical structures within the human body. Our model delivers accuracy of up to one centimeter - allowing much more precise positioning than heuristic approaches.

Large Variety of Anatomical Structures

Our model predicts the position and extent of over 50 anatomical structures, including liver, lungs, heart, kidneys, vertebrae and many more.

Fast Prediction Times

Our model is executed in less than a second so that it can be integrated without slowing down the automatic positioning pipeline.



Centerpoint prediction errors for selected organs