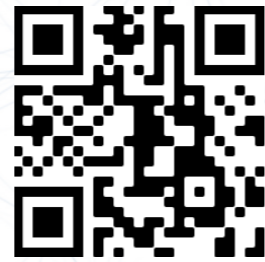




FUSE-AI

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More information
about FUSE-AI



More information
about Prostate.Carcinoma.ai

OUR NETWORK



FUSE-AI

Prostate.Carcinoma.ai

makes prostate MRI
analysis easier,
more time-efficient and
convenient for the radiologist



„The development of innovative healthcare solutions needs strategical cooperations with competent and motivated partners, who have capability to face the challenges and concepts to establish a well digitalized radiology. FUSE-AI understands how to enrich the healthcare market with quality in radiology.“

- Felice Burn, MD, Kantonsspital Aarau



„AI in radiology is the logical consequence of the ongoing developments in recent years to reach a new level of medical and clinical care. For me, even the first results from Prostate.Carcinoma.ai plug-in in mint Lesion™ were a substantial improvement!“

- Alexander Cornelius, MD, Kantonsspital Aarau



AI-powered prostate MRI reading with Prostate.Carcinoma.ai

Introduction

With an incidence of 1.4 M worldwideⁱ, prostate cancer and its detection make up a significant amount of the work of a radiologist. Since MRI scans of the prostate prior to biopsy are highly recommended and are already implemented in certain guidelines, e.g. the NICE guidelineⁱⁱ, capacities to handle the increasing workload need to be created. Artificial intelligence (AI) has the potential to take prostate cancer diagnostics to a new level, providing faster, high-quality and time-efficient diagnoses. AI and machine learning technologies facilitate the workflow by assisting in diagnosis, management and treatment of a wide variety of medical conditions, prostate cancer being one of them. The company FUSE-AI has developed a software that creates voxel-wise segmentations of the prostate, zones and suspicious lesions.

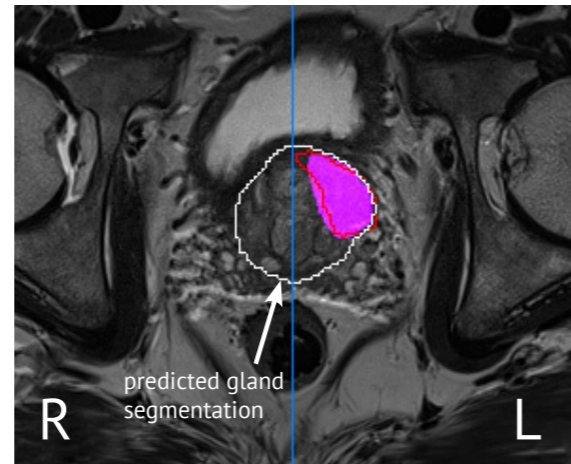
Product Description

Prostate.Carcinoma.ai is an **AI-powered software** to facilitate prostate MRI analysis. It provides reliable and reproducible analysis of MRI image data, determines exact prostate and lesion volumes and coordinates of VOIs, refining them when necessary. Prostate.Carcinoma.ai can be integrated into the radiology viewer prostate reading workflow and provides fully automated 3D segmentation of the prostate, as well as the **detection and segmentation of prostate lesions** in MR T2 weighted images. The segmented lesions are automatically classified as malignant or benign and can be mapped to the prostate reporting scheme in a viewer. Image data is transferred to FUSE-AI by using state-of-the-art **DICOM interface**. The combined software makes prostate MRI analysis **easier, more time-efficient and convenient** for the radiologist. Our product prototype is currently evaluated in a clinical study and will be available as a **CE and FDA certified plug-in in 2022**.

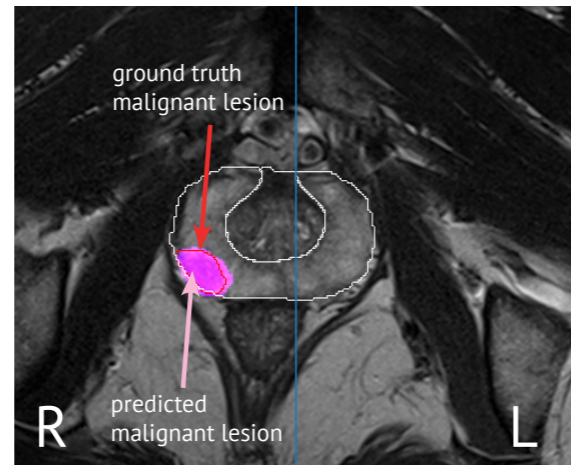
References:

i Sung H et. al. (2021): Global Cancer Statistics 2020: GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries, CA 71(3) 209-2049.

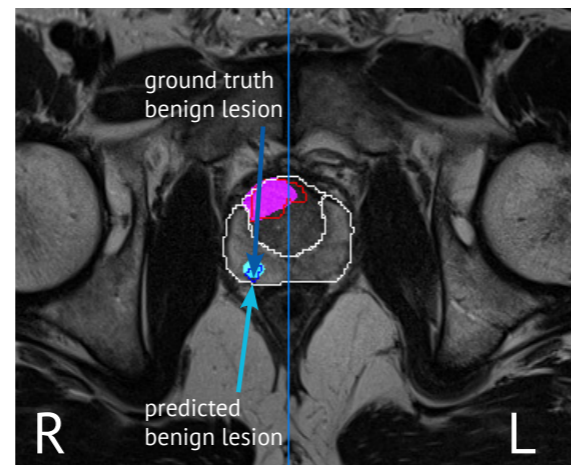
ii National Institute of Health and Care Excellence (2019): NICE guideline [NG131] Prostate Cancer: Diagnosis and Management. Accessible via <https://www.nice.org.uk/guidance/ng131/chapter/recommendations>.



Prostate gland marked in MRI



Malignant lesion as detected by Prostate.Carcinoma.ai and a radiologist



Benign lesion as detected by Prostate.Carcinoma.ai and a radiologist

Benefits of Prostate.Carcinoma.ai



Improved analysis time

Time pressure is reported as critical factor for the creation of thorough radiological reports. The increasing workload makes it necessary, that software relieves the radiologist with image analysis while ensuring adherence to quality standards. By using **Prostate.Carcinoma.ai**, the reporting time can be reduced: the software automatically generates markings of prostate and suspicious lesions. ROIs can be reviewed and manually adapted afterwards. Therefore, time-consuming manual markings are oftentimes not necessary.



Enhanced diagnostic quality

The quality of MRI analysis can be described by the number of true positive/negative and false positive/negative carcinoma detections and the therefrom derived diagnostic accuracy measures: sensitivity, specificity as well as the positive and negative predictive value. Depending on the experience level of the reader, over- and underdiagnosis of prostate carcinoma in MRI is a well-known phenomenon. **Prostate.Carcinoma.ai** helps radiologists with the detection of suspicious ROIs. Clinical data describing and comparing the diagnostic accuracy of prostate MRI reading with and without Prostate.Carcinoma.ai is currently being collected.



More detailed information

By providing a reliable and reproducible analysis of prostate MRI, exact volumes of prostate and lesion and the coordinates of the regions of interests (ROIs) can be determined.

This information can be of use for an exact PSA density calculation as well as simplifying the targeting of suspicious lesions in ultrasound-guided biopsy.

Your diagnostic software and Prostate.Carcinoma.ai complement each other

Prostate.Carcinoma.ai

- can be **easily integrated** into your diagnostic software
- communicates via **DICOM** interface
- generates markings of **gland, prostate zones and suspicious lesions as a 3D segmentation automatically**
- defines lesions by their **volume and localization** within the prostate
- increases **accuracy of PSA density calculation**
- provides information for **easier filling of structured report**

