Revolutionising Healthcare with Trustworthy AI

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Assistant Professor

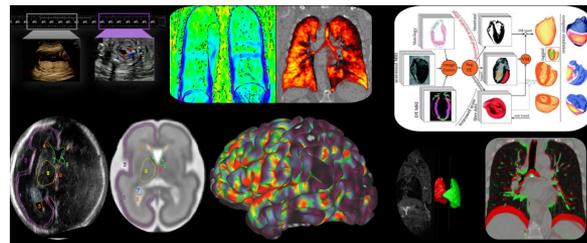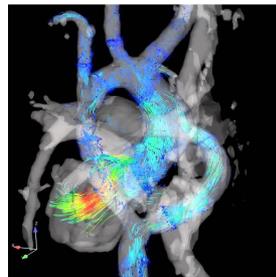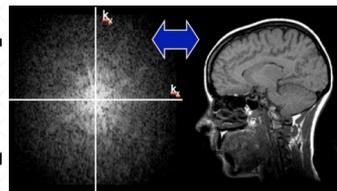Department of CSE, HKUST

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AI Reshapes Clinical Workflow

from acquisition to prognosis

Acquisition　　　Reconstruction　　　Visualization　　　　　Analysis　　　　　Treatment & Prognosis
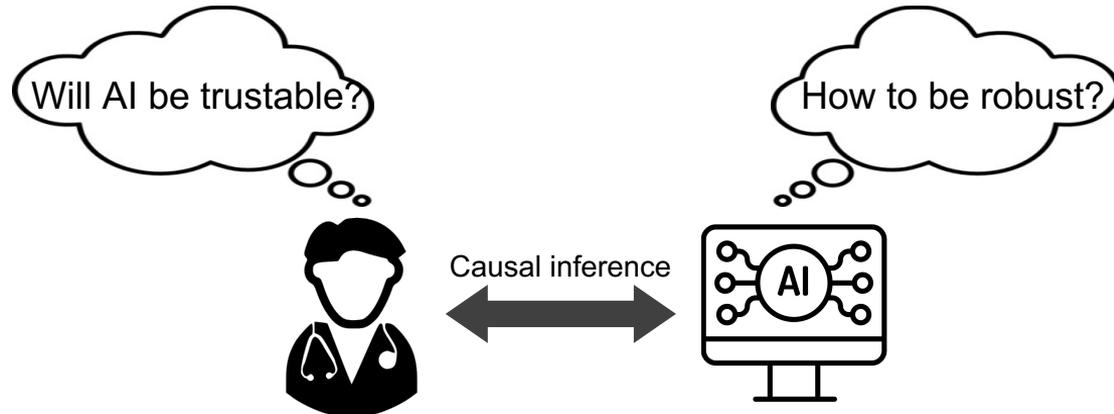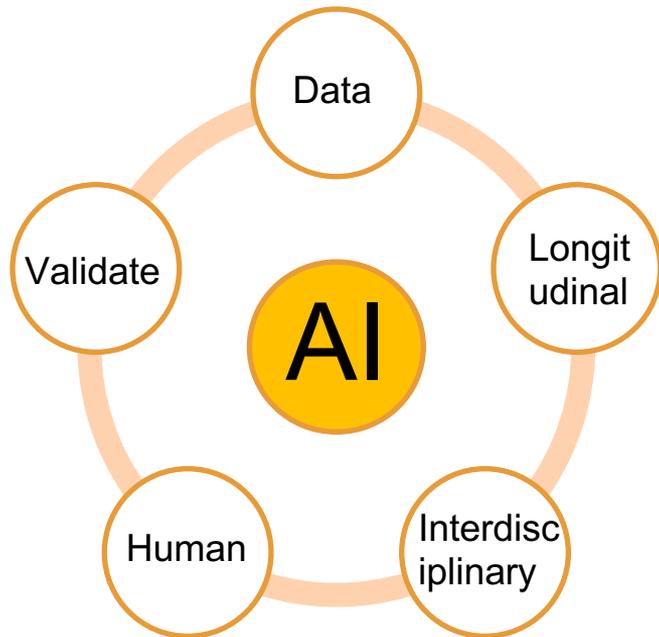
Safer, Faster, Better　　　See the unseeable, Accurate, Quantitative　　　Decision support, Minimize risk
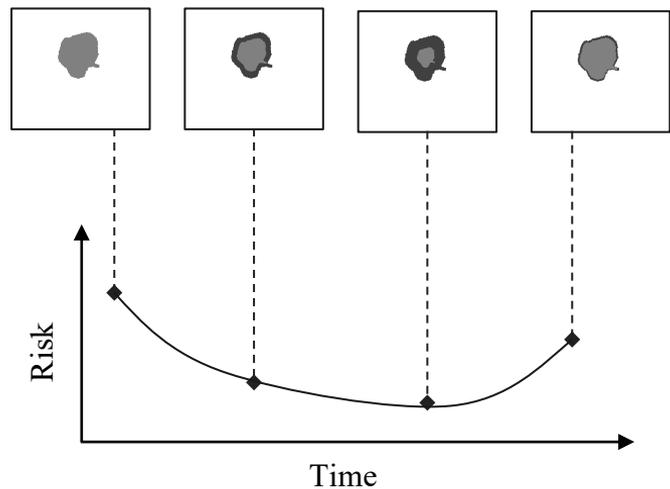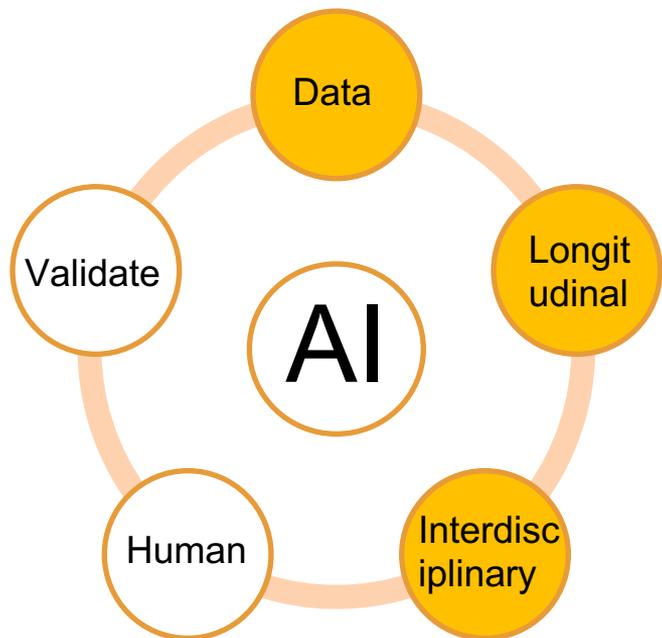
Research Direction

❑ Trustable, generalizable, and explainable AI algorithms.
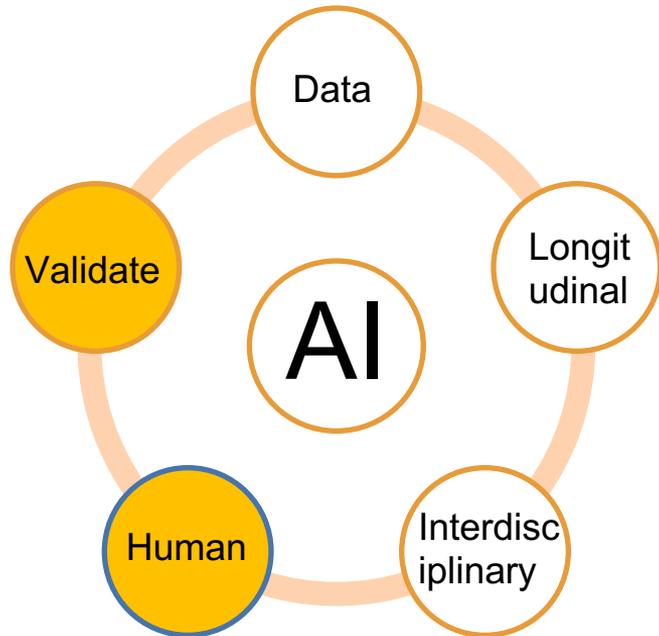
Research Direction

❑ Full-stack AI solution in data acquisition, screening, diagnosis, progression, treatment, and prognosis (e.g., molecular underpinning and survival analysis).
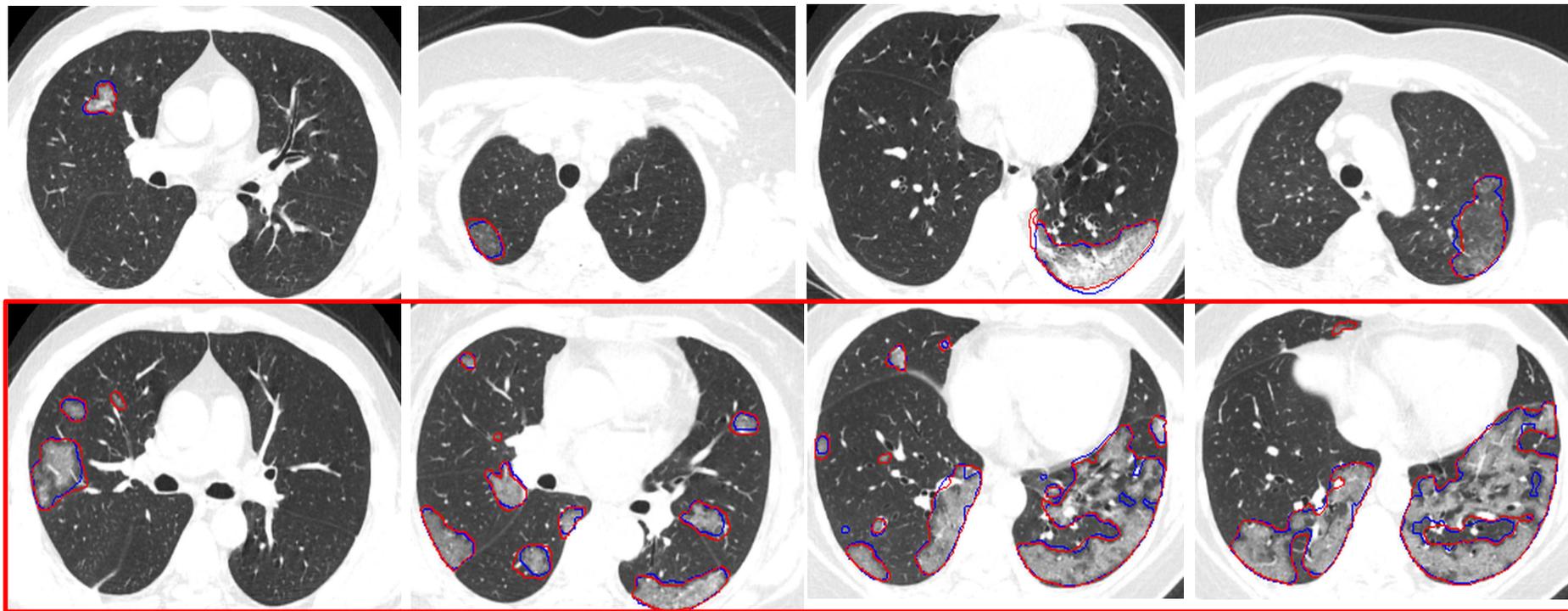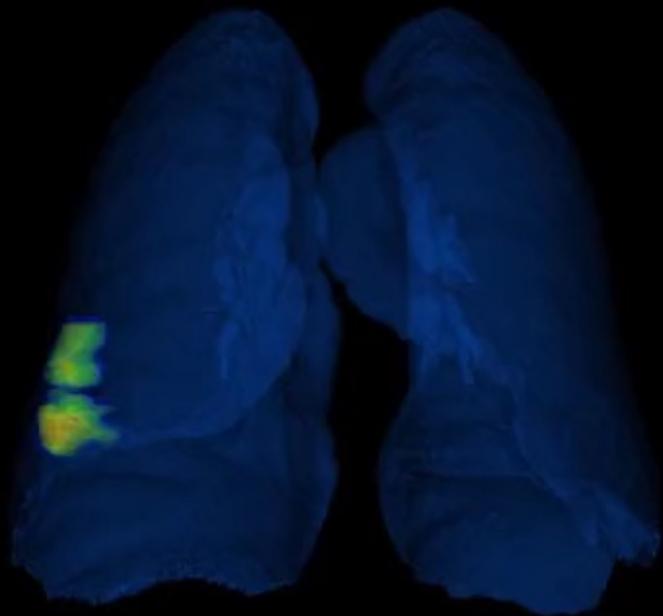
Research Direction

❑ Human-machine collaboration with application to clinical translation and validation, etc.

Covid-19 CT Lesion Segmentation for Quantitative Evaluation
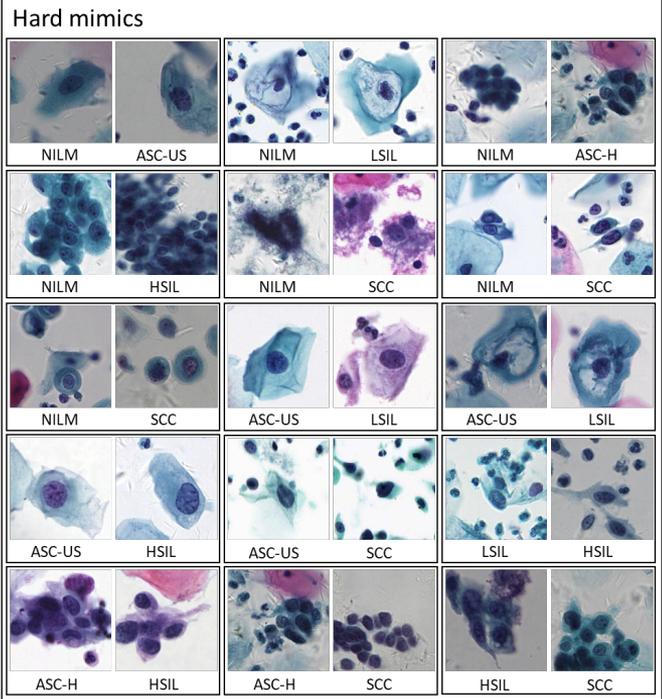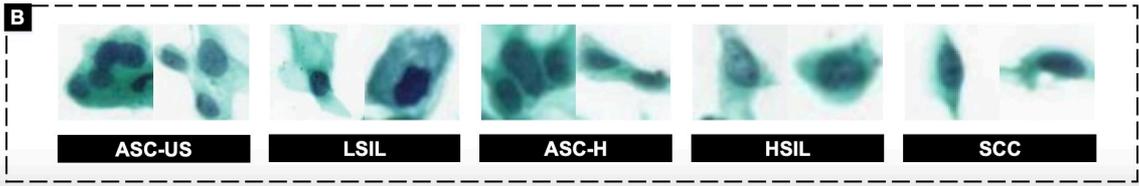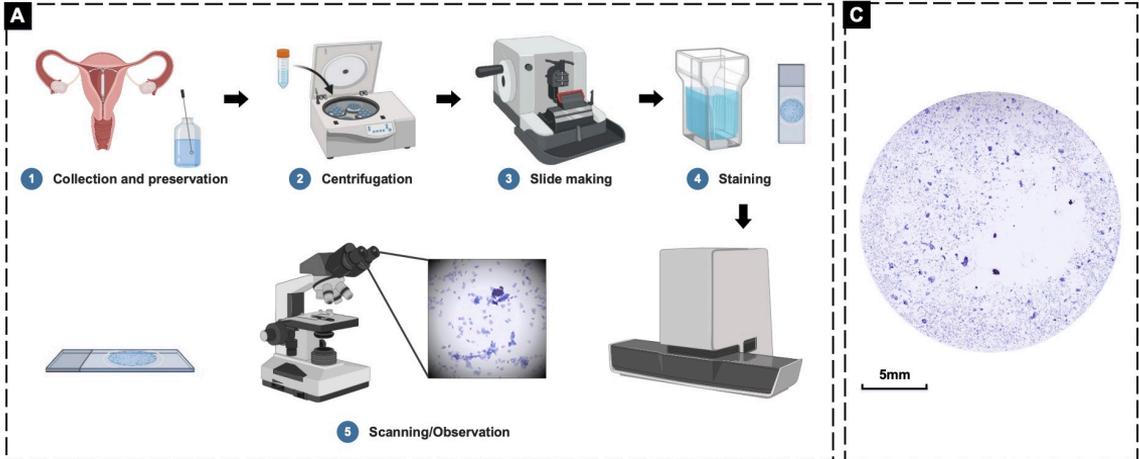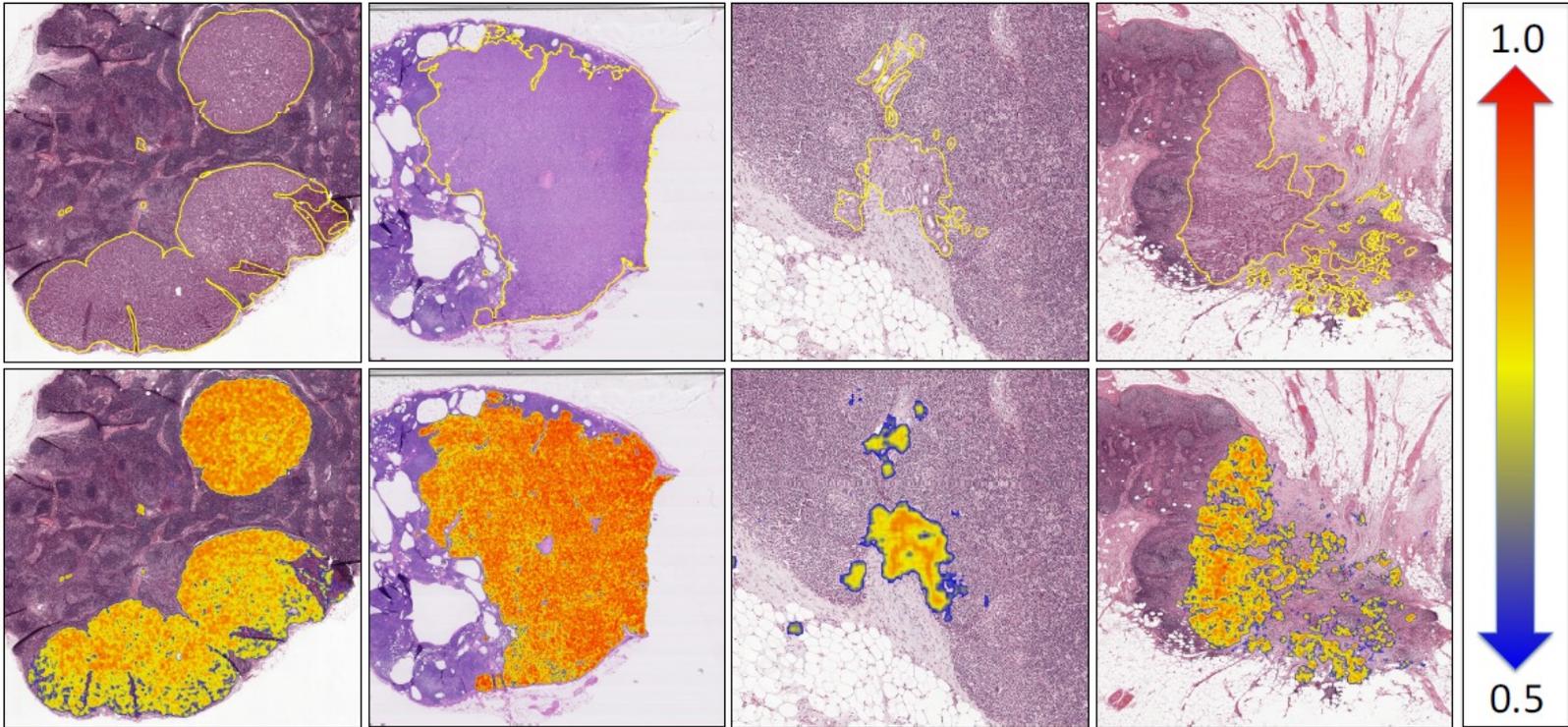

Prediction — Ground truth

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Computational Pathology

Cervical Cancer Screening

[MIA 2021, ISBI 2022, TMI 2019]

Breast Cancer Metastasis Detection

[JAMA 2017, WACV 2018, TMI 2019]
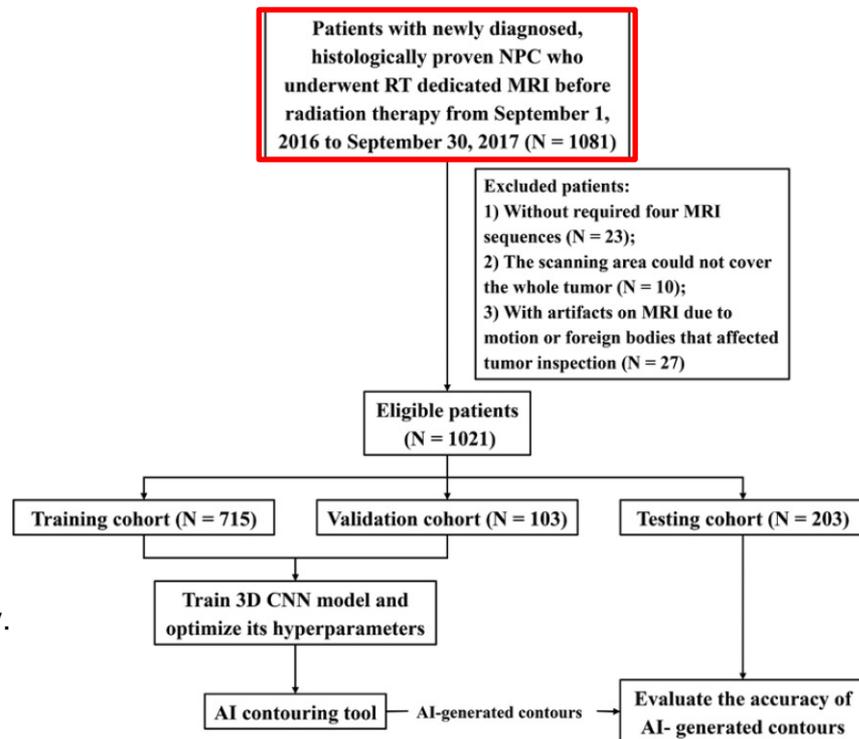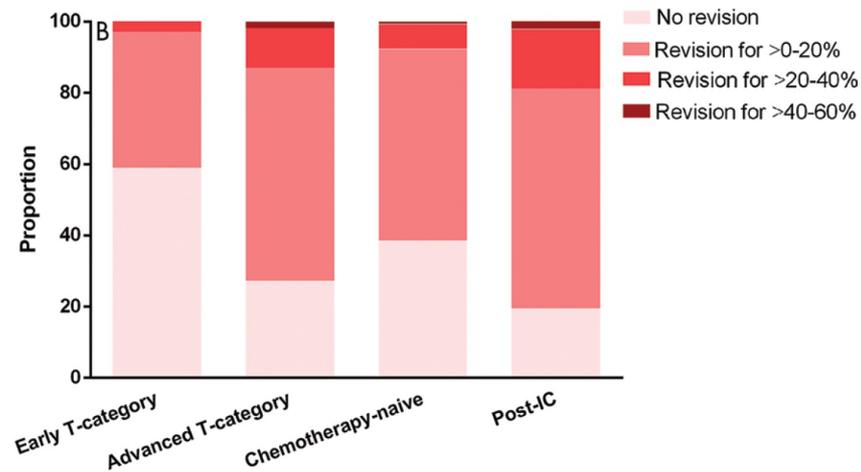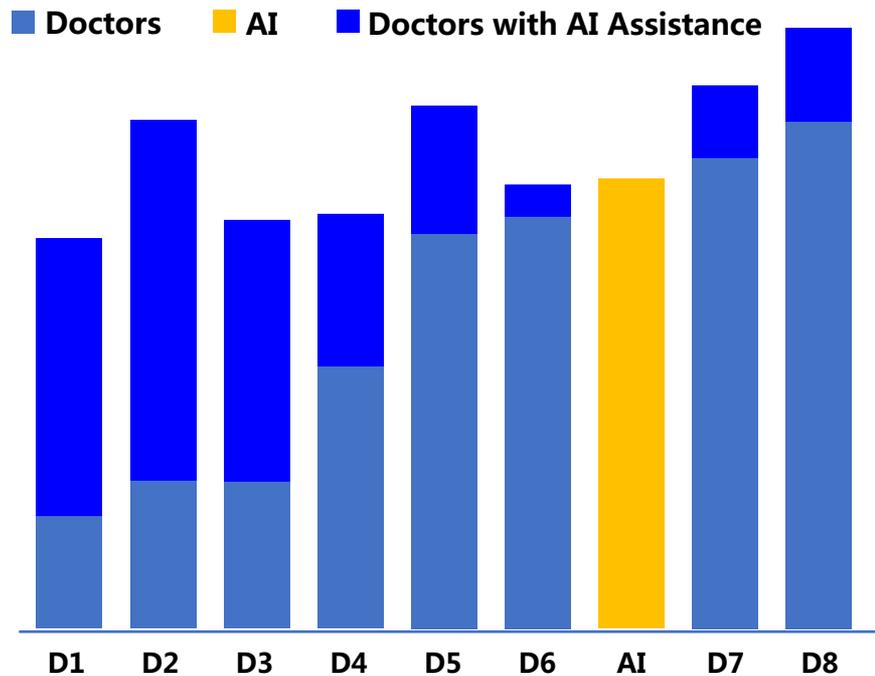
Automated Contouring of PTV for Nasopharyngeal Carcinoma from MRI
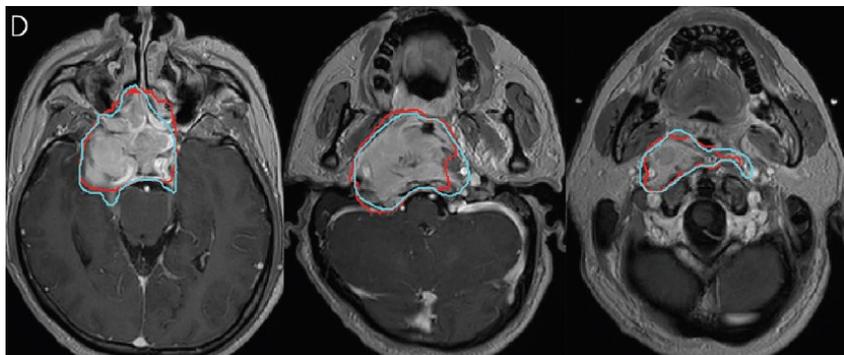
Blue and red lines indicate human experts and AI, respectively.

Automated Contouring of PTV for Nasopharyngeal Carcinoma from MRI

[Radiology 2019]

Collaborators

More than 50+ clinical partners.

Thank you!

Welcome collaboration !

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