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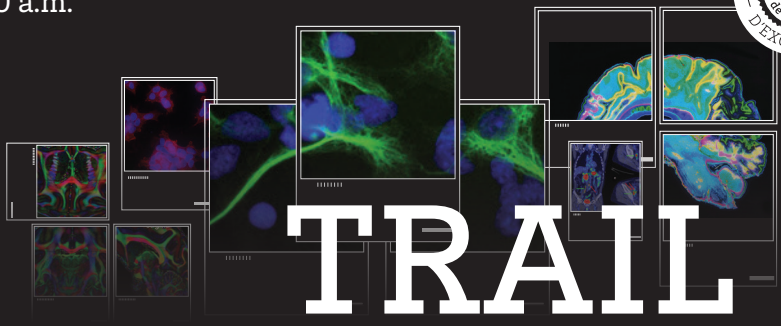

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Conference

Quantitative imaging biomarkers in brain tumors: How we do it

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Yoon Seong CHOI, clinical assistant professor of radiology, has been working as a neuroradiologist since 2013. The main research topic is brain tumor, especially quantitative prognostic imaging biomarkers in glioma patients. Recent studies are focused upon machine-learning based radiomics, radiogenomics and deep-learning in brain tumor. One of characteristics of her brain tumor research is exploitation of open-source resources: The research infrastructure are established upon open-source resources, which makes it easy to collaborate with other researchers.

"Quantitative imaging biomarkers in brain tumor: How we do it"

The trend of recent neuroradiology research, especially brain tumor imaging, is going toward quantitative and high-dimensional imaging biomarker, from qualitative imaging parameters such as visual assessment of radiological findings. Radiomics is a useful to extract high-dimensional quantitative information from medical images, thus extracting invisible information beyond visual assessment. Radiomics has been actively applied to oncology field. However, for research with these quantitative imaging biomarkers, labor-intensive work and meticulous numeric calculations are required, and several things should be considered including technical feasibility, reliability of results, and clinical practicality. In this talk, our experience in quantitative imaging biomarker of glioma will be shared, from conventional histogram analysis to current radiomics and deep learning research.