

## **Radiomics: machine learning meets clinical imaging for personalized and precision medicine**

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### **Abstract**

Radiomics, in a nutshell, would like to go beyond imaging for personalized and precision medicine in cancer. Indeed, it refers to the computation, analysis and selection of advanced quantitative imaging features with high throughput from standard-of-care medical images acquired using, for instance, CT, PET or MRI. The increasing adoption of electronic patient records as well as the diffused use of PACS have made available heterogeneous patient data, spanning different spatial and temporal scales, modalities, and functionalities. Radiomics is also evolving into radiogenomics that looks for correlation between cancer imaging features and gene expression. All this information can be harnessed in an integrated platform and leveraged via clinical-decision support systems (CDSSs) to improve personalized medical decision-making with diagnostic, prognostic or predictive value.