Automatic Recognition Of Anatomical Coverage In Medical Images

Tech ID: 29503 / UC Case 2016-645-0

SUMMARY

UCLA researchers in the Department of Radiology have developed an algorithm for automated processing of medical images.

BACKGROUND

The increasing use of medical imaging techniques such as magnetic resonance imaging (MRI), computed tomography (CT), and positron emission tomography (PET) has generated a lot of medical data with nearly 20-40% increase every year. Currently, these medical images have to be processed manually by physicians and clinicians. There is a need for algorithms that can automatically read the patient images and classify them by type. Such approaches can be particularly useful for data mining and big data processing. However, previous attempts at developing such a system have utilized text-based algorithms that often fail between images with different classification systems.

INNOVATION

UCLA researchers have developed an algorithm that can accurately identify different medical images. They have used their algorithm to successfully differentiate between CT images of brain, chest, and lungs. Their approach directly identifies the anatomical features of the image and therefore, does not require any classification code. It provides an important pre-processing classification step for data mining. The software can process any image and accurately classify it as a specific image category.

APPLICATIONS

- Data mining of medical images such as CT, PET, and MRI scans
- Automatic classification of medical images for pre-processing

ADVANTAGES

- Identifies images based on anatomic features
- Can process images obtained from different hardware systems

STATE OF DEVELOPMENT

Algorithm developed and successfully tested for different CT scans.

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	11,164,308	11/02/2021	2016-645

RELATED MATERIALS

- X. Wang, P. Lo, B. Ramakrishna, J. Goldin, and M. Brown, A machine learning approach for classification of anatomical coverage in CT, Medical Imaging, 2016.

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- Automated Phantom Image Assessment for Medical Imaging Applications

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OTHER INFORMATION

KEYWORDS

Medical image classification, data mining, feature extraction, CT, MRI, PET

CATEGORIZED AS

- **Computer**
  - Software
- **Imaging**
  - Medical
  - Imaging

RELATED CASES

2016-645-0

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