The Open Access Journal of Science and Technology

Abstract

A Novel Method for Classification of Interstitial Lung Diseases using Deep Convolution Neural Network: CNN Architectures, Transfer Learning

Dr.Sachi Mohanty

ICFAI Foundation For Higher Education, Hyderabad, India

Abstract:

Automated tissue characterization of interstitial lung disease is one of the most important elements of Computer Aided Disease system. The problem remains challenging even though there has been much research in this area. While deep learning has produced brilliant success in image applications over the past few years, the majority of training is with sub-optimal parameters, requiring unnecessary long training time, setting up hyper parameters. In this paper we explore the classification of lung tissue pattern affected with interstitial lung disease (ILD) in high resolution computed tomography (HRCT) scans and evaluate different CNN architectures with and without transfer learning and we examine the effect of using Cyclical learning rates for faster convergence and the hyper-parameters tuning and data augmentation using Med Gift dataset.

Biography:

Dr. Sachidanandan Mohanty is currently working as Associate professor at ICFAI foundation for Higher Education, IcfaiTech, Hyderabad since 2019. Prior to which he has already worked with some reputed colleges like Trident Academy of Technology (2006-2009) ,KIIT Deemed To Be University(2013-2018) ,Gandhi Institute For Technology(2018). He has completed his Ph.D. from Indian Institute of Technology (IIT), Khadagpur in the year 2014. His topic was, for Major: Decision-making, Cognitive Science, Neural Network Application & Thesis Topic: Influence of Emotion and Cognition on Decision-Making under Uncertainty .He has completed 4 years MCA from Utkal University, Bhubaneswar .He also has a M.Tech in Computer Science & Engineering from KIIT University, Bhubaneswar in the thesis topic "Brain-Computer Interface on Classification of EEG Signals" in 2006.

Publication of speakers:

- Influence of mood states, group discussion, and interpersonal comparison on change in decision-making and information processing by Sachi Nandan Mohanty, Damodar Suar, International Journal of Decision Science, Risk and Management, (INDERSCIENCE), Vol.5, Issue 2. 101-123 (2013).

- Decision-making in Positive and Negative Prospects: Influence of Certainty and Affectivity by Sachi Nandan Mohanty, Damodar Suar International Journal of Advances in Psychology, Vol 2, Issue 1, 19-28 (2013).
- Influence of Mood States on Decision Making under Uncertainty and Information processing by Sachi Nandan Mohanty, Damodar Suar, Psychological Reports, (SAGE), Vol 115, Issue 1, 44-64 (2014).
- A Comparative Study on Data Analytics and Big Data Analytics by Annanta Chandra Das, Santosh Kumar Pani, Sachi Nandan Mohanty, International Journal of Computer Science and Information Technology Research, Vol 4, Issue 1, 67-75 (2015).
- Evaluation of Indian B2C E-shopping websites under Multicriteria Decision-making using Fuzzy hybrid techniques by Sandipan Dey, Biswajit Jana, Mahendra Kumar Gourisaria, Sachi Nandan Mohanty, Rajdeep Chatterjee, International Journal of Applied Engineering Research. Vol 10, Issue 9, 24551-24580 (2015)

International Conference on Artificial Intelligence, Automation & Robotics; August 26-27, 2020; Dubai, UAE.

Citation: Dr.Sachi Mohanty, ICFAI Foundation For Higher Education, Hyderabad, India ; Artificial Intelligence 2020; August 26-27, 2020; Dubai, UAE.