

## عنوان مقاله:

Developing Deep Convolutional Neural Network Model to Process Natural Persian Script in Computer Vision

## محل انتشار:

چهارمین کنفرانس ملی تحقیقات کاربردی در مهندسی برق، مکانیک، کامپیوتر و فناوری اطلاعات (سال: 1397)

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## خلاصه مقاله:

Natural Language Processing starts with compiling and analyzing visual, auditory and written instances of language use, as Corpora to decode language mechanism and improve machine learning ultimately. Computational Linguistics tends to clear the path for machines to learn different aspects of linguistics even better than humans. This led to developing AI-powered robots by Alibaba and Microsoft that could win humans over for the first time in English reading comprehension contest in the first month of 2018. However, there are limited numbers of Persian Corpora available to improve Persian NLP and few types of research were conducted in the classification of Computer vision Data to detect, translate and process natural Persian, rather than its counterparts in other languages. The accuracy of Persian NLP needs to be improved and become closer to other NLP systems that are more reliable. On the contrary of existing virtual assistants that can process visual scripts even in Arabic, there is almost no official assistant Robot that can operate as close as its counterparts. The applied linguist in this research designed and provided details of developing deep Convolutional Neural Networks with TensorFlow and Keras in python, trained for machines to process natural Persian script visually by a camera. The process of optimizing CNN models was also explained. The trained models detect, translate and process natural Persian by classifying Computer Vision Data. They act interactively with Persian Today Corpus which is an online automated corpus compilation program updating Persian Wordnet. The model could even detect handwritten script. The trained models and datasets will be available as open source GitHub repository to provide approaches for further studies.

## کلمات کلیدی:

Artificial Intelligence, Computational linguistics, Computer Vision, Deep Convolutional Neural Networks, Natural language Processing

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