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dring the 11 1.

TITLE: Optimizing Fron deficiercy delection using palm images through compansion of own with KNN

# Daragraph 1.

Iron deficiency is one of the global public health problems Abstract: that affects differ and pregnant women . The nor invasive approach such as machine leaving algorithm is one of the procedure's that used to delect from deficiency this method is most affective and thre officient.

To deference the effect of Iron deficiency defector using CNN Compared to KNN. CNN is excellent for image clashification. and cost effective.

Total number of astroles published on this topic is more than paragraph o: g2 papers from scholars IEEE Explore.

Kansalogiu AR, polatile, Hasi hasian - Non Inua sile prediction of hemodolin level in blood and ison level using machine leasing golf Al-alimi, Bashanten - prevalence of iron deficiency airemia among

unworkty students, 2018. \* passida, Tye-Div-Fron deficieras 12021

\* Dithy, knishna ponya. Aramia solectron in pregnarcy homen by win sandom posedidion eoly

\* Hran, chondhusy - machine lowing algorithm to predid the childhood aremia 12021

Application; \* Early doledion and distriblis \* nearrion support for health case professionall \* public tealth of chical tricals and reallarch \* Pernote moritarry Data cuailability and analy:

Poeta is collected from various hospitaly using condense holds in collected from various hospitaly using hospita paragraph 2. which is used to collect the value, Blood preclure, Blood level, Age tremic and how themic palm images never taken from patients Before the studes began the otheral consent from various Algorithmand complexity penformance: hospitals corritees and consent of children's parents by taking images of palm are consented. Identifying the most-informant features and optimizing features Feature extraction: extraction mothed for CNN and could be more complexe. Materials and methods paragraph 1: Savedha school of Engineering stay setup: ro of Garages: 2 Sample 8120 ! 10 Total Sizo: 20 Data sof the doteset for palpable palm images of both Aremic and non Aromic potients is taken from "mendeley data"

Dozaskaby a: Sample 98049 1:10 procedure: [CNN]; Define the problem Crather and prepare dates split date into towning and telling date sets sully a con model compile the model \* Train mode \* Evaluate the model deploy panasragh ?! Apply the survivor out all general boxegne; [KNN]; betand the problem \* Coother and pepaso doder Split data into Training and Testing self + Build a run model & trace predictions Promote Hondon . I some of \* Evaluate me Moder \* Firding Optimal 10 paragraph Li: · acoglo collab · THE! 3 · EGBRAM · Lindon's operating system · SPSS IRM Test pacedon! Crather the detaset that cortain information. boda collection, about from deficiency delectron Model development: Implementing convolutional rewal rehable about m and model with text teatings

making and rothing: training and testing convolutional rounal nothing model that evaluates its performance.

## parasouph - s:

SIND	Alsovith in	Sumply size	Accuma
1.	CNN	lo	48.49
2 ·	KNN	10	9 14 3 3

i) Statistical softmore used: IBM SPSS vention 27

ii) Result and Dissource.

Table 1: It displays the improvement of accuracy of Min

Table 2: It diplay the antropated accuracy of KNN

Table 3: It provides the accuracy after KNN with CNN wirs standard

Table 4: compares the accuracy of 15mm to India Chin

iii) Irdependent variables: + CNN
+ KNN

previous literatures:

Difficult in opting mole accusas with ICNN because of Difficult in opting and high dimensional data computationally sensitive to irretemant fedures and high dimensional data computationally expense during prediction.

machine leasurs Algorithms to get improved techniques at solving problems.

conclusion: CNN absorbs is good in secondary palmimages and daysfication of images which have accuracy of 9.4.93 %.

#### T-Test

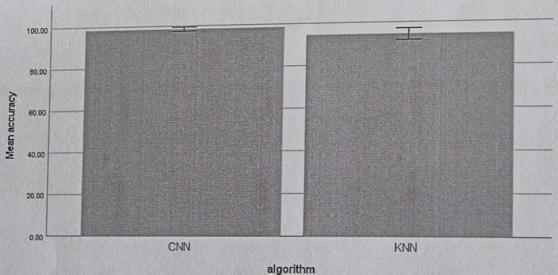
**Group Statistics** 

	algorithm	N	Mean	Std. Deviation	Std. Error Mean		
accuracy	CNN	10	98.4960	1.56927	.49625		
	KNN	10	94.3360	4,33549	1,37100		

## Independent Samples Test

Levene's Test for Equality of t-test for Equality of Means Variances 95% Confidence Interval of the Sig. Difference Std. Error Mean (2-Upper Lower Difference Difference tailed) F Sig. 1.45805 1.09675 7.22325 4.16000 .011 .003 2.853 18 11.469 accuracy Equal variances assumed .96184 7.35816 1.45805 .015 4.16000 2.853 11.318 Equal variances not assumed

### Simple Bar Mean of accuracy by algorithm



Error Bars: 95% CI Error Bars: +/- 2 SE