



DIABETIC

RETINOPATHY

*DETECTION MODEL*

USING DEEP CNN NETWORK

# TEAM MEMBERS

The background of the slide features a silhouette of five people standing on a dark, uneven ground, each holding up a large, black letter to form the word 'TEAM'. The letters are 'T', 'E', 'A', 'M', and 'M'. The scene is set against a vibrant sunset sky with orange, yellow, and pink hues. The silhouettes of the people are dark and detailed, showing their postures as they hold the letters high.

LAVANYA

20201ECE0109

CHANDHANA

20201ECE0092

NISHA

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VIJAY

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CHAKRADHAR

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TEJA  
YASHWANTH

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What is diabetic retinopathy ?

# Introduction:

The main aim of the project is to develop an model for the early detection of diabetic retinopathy using deep learning algorithms. We are implement a transfer-learning based approach using a deep Convolutional Neural Network (CNN).

Training

Testing

Validation



# Image augmentation

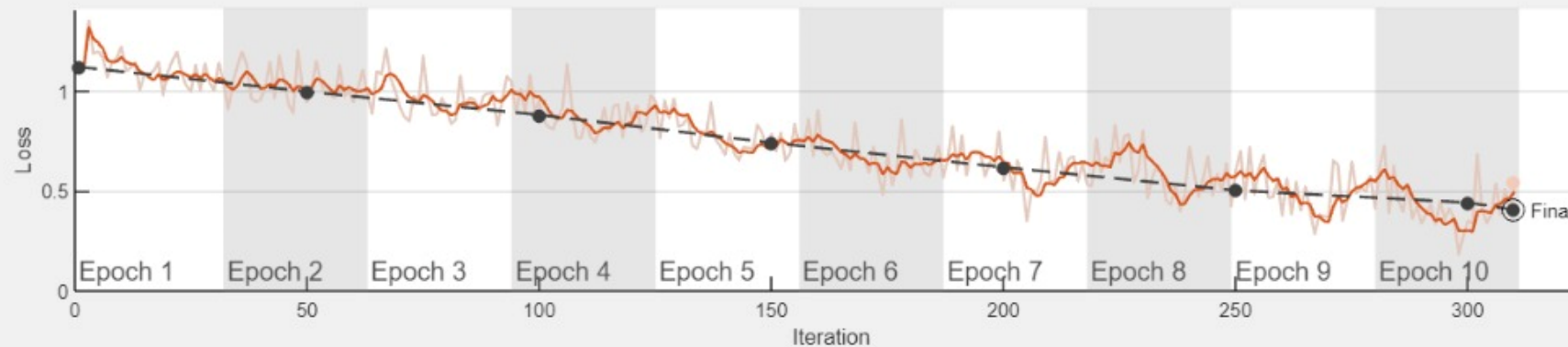
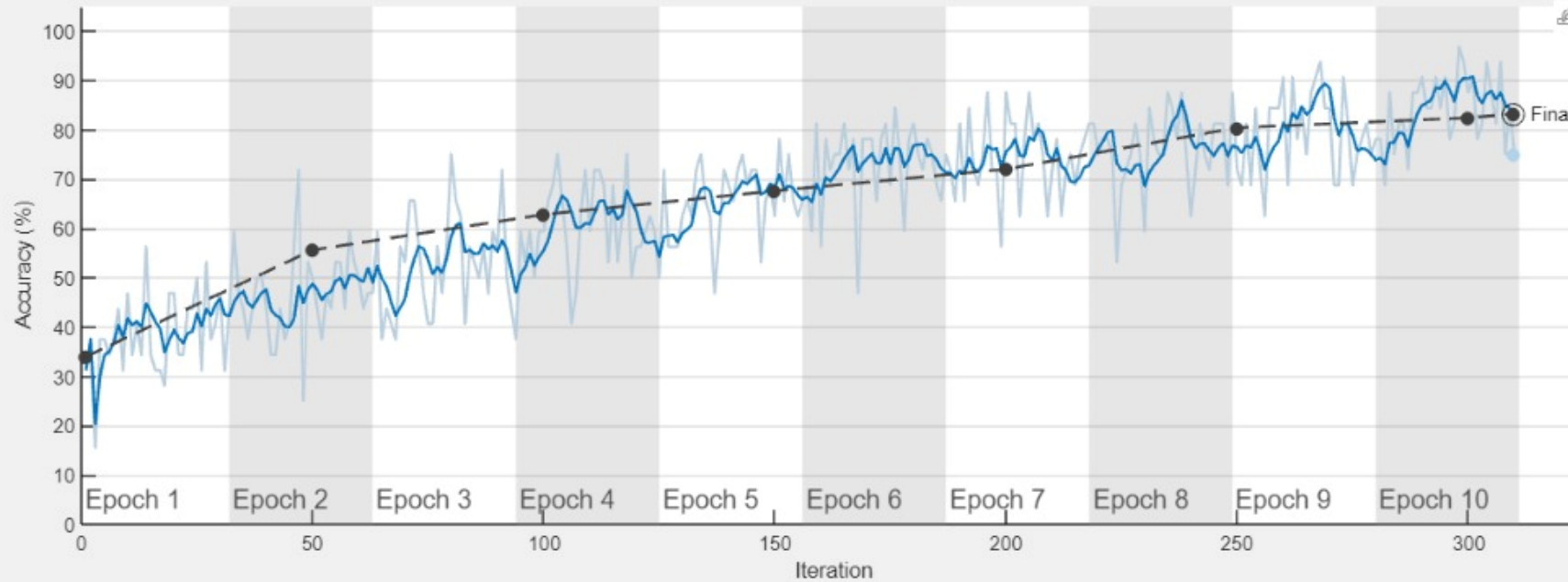
- ❑ Image augmentation is a technique that is used to artificially expand the data-set.
- ❑ They can improve the predictive accuracy

## Image Labelling

- ❑ Image Labeling that focuses on identifying and tagging specific details in an image.
- ❑ Easy data collection

# model accuracy prediction:

Training Progress (25-May-2023 09:29:22)



## Results

Validation accuracy: 83.20%  
Training finished: Max epochs completed

## Training Time

Start time: 25-May-2023 09:29:22  
Elapsed time: 32 min 4 sec

## Training Cycle

Epoch: 10 of 10  
Iteration: 310 of 310  
Iterations per epoch: 31  
Maximum iterations: 310

## Validation

Frequency: 50 iterations

## Other Information

Hardware resource: Single CPU  
Learning rate schedule: Constant  
Learning rate: 0.001

## Accuracy

Training (smoothed)  
Training  
Validation

## Loss

Training (smoothed)



Training on single CPU.

Initializing input data normalization.

Epoch	Iteration	Time Elapsed (hh:mm:ss)	Mini-batch Accuracy	Validation Accuracy	Mini-batch Loss	Validation Loss	Base Learning Rate
1	1	00:00:10	28.12%	37.60%	1.1929	1.0961	0.0010
2	50	00:01:45	40.62%	50.40%	1.0446	0.9759	0.0010
4	100	00:05:36	65.62%	63.20%	0.8741	0.8687	0.0010
5	150	00:09:57	65.62%	64.00%	0.8291	0.7652	0.0010
7	200	00:11:41	81.25%	68.40%	0.5181	0.6924	0.0010
9	250	00:13:15	84.38%	77.60%	0.5001	0.6104	0.0010
10	300	00:14:50	87.50%	72.40%	0.3375	0.7290	0.0010
10	310	00:15:15	75.00%	80.00%	0.4629	0.5298	0.0010

Training finished: Max epochs completed.

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# ADVANTAGES

- Improved Efficiency
- Predict Accuracy
- Accessibility
- Consistency

## ***CONCLUSION***

The updated model demonstrates better efficiency and accuracy compared to previous models, leading to more reliable and timely diagnoses. Overall, implementing this system can significantly improve patient outcomes and alleviate the burden on healthcare systems.



THANK

YOU