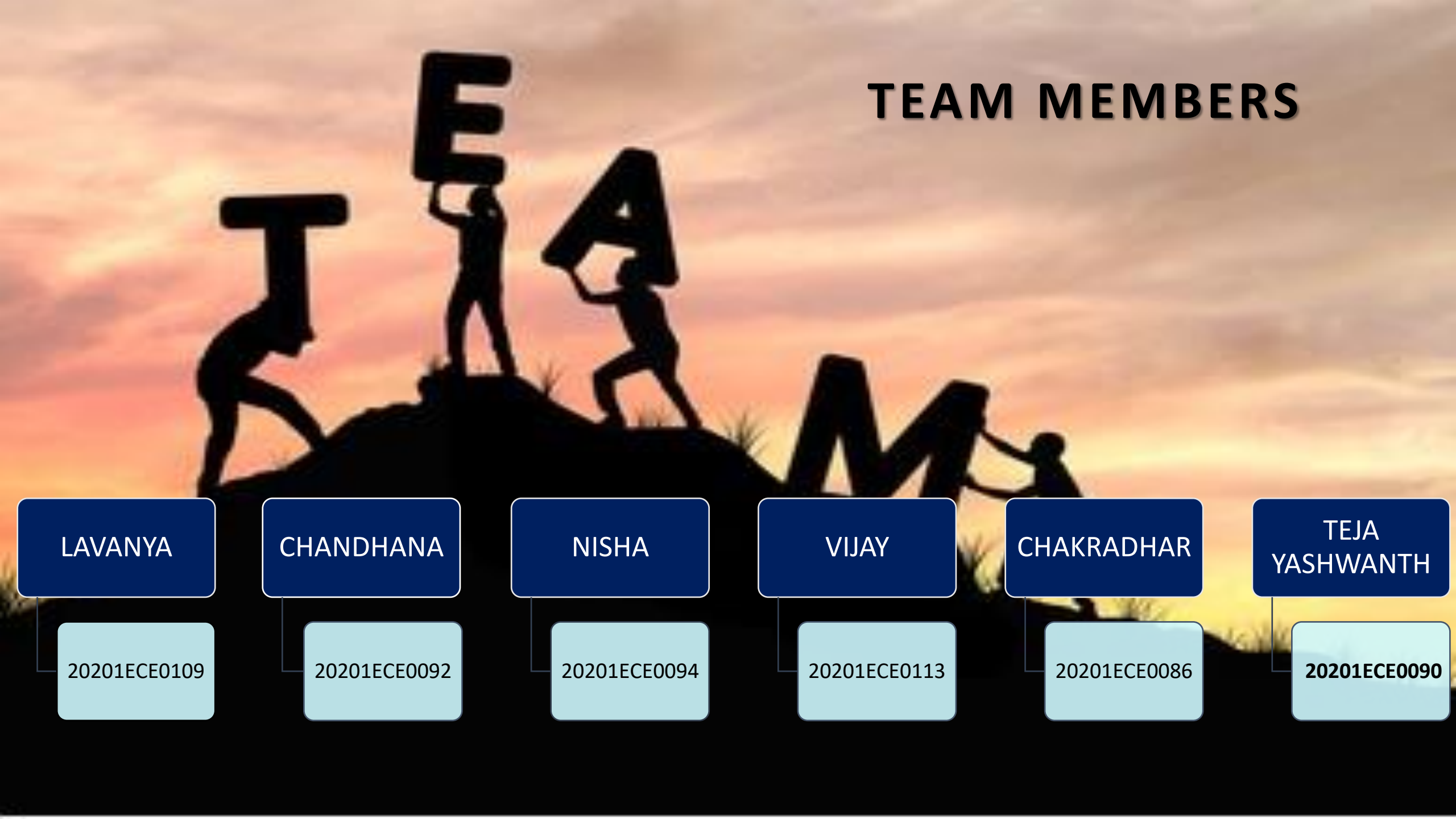
DIABETIC RETINOPATHY *DETECTION MODEL*

USING DEEP CNN NETWORK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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

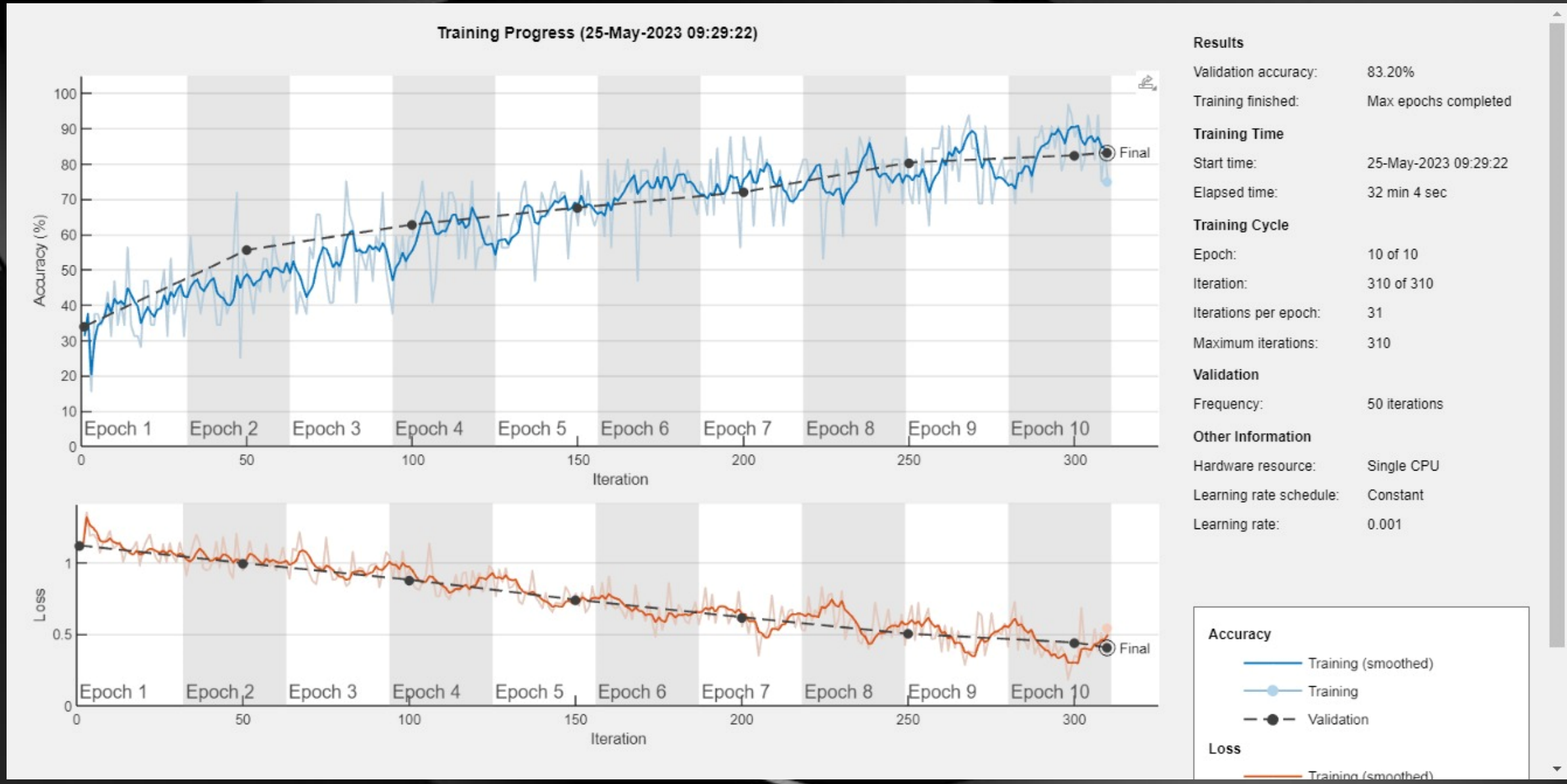
- Image augmentation is a technique that is used to artificially expand the data-set.

- 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 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.
>>
```

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.