**SPATIAL MODEL**

1. **ViT with YOLO,4 players (model 1)** 8 hours and 30 min

epochs=5

optimizer = AdamWeightDecay(learning\_rate=3e-5, weight\_decay\_rate=0.01)

A graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of

Description automatically generatedbatch\_size=16

Classification Report:

precision recall f1-score support Predicted

Axar\_Patel 0.50 0.74 0.60 993 NO

Kuldeep\_Yadav 0.45 0.40 0.42 474 NO

Ravindra\_Jadeja 0.57 0.24 0.34 571 NO

Virat\_Kohli 0.57 0.48 0.52 629 YES

accuracy 0.51 2667

macro avg 0.52 0.47 0.47 2667

weighted avg 0.52 0.51 0.49 2667

F1 Score (macro-average): 0.47000779288034167

Accuracy: 0.5114360704911886

Mean Average Precision (mAP): 0.4309001207919875

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Description automatically generated

1. **ViT with YOLO,4 players (model 2)** 17 hours

epochs=10

optimizer = AdamWeightDecay(learning\_rate=1e-5, weight\_decay\_rate=0.01

batch\_size=32

A graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of

Description automatically generated

Classification Report:

precision recall f1-score support Predicted

Axar\_Patel 0.40 0.95 0.57 993 YES

Kuldeep\_Yadav 0.58 0.34 0.43 474 YES

Ravindra\_Jadeja 0.27 0.01 0.01 571 NO

Virat\_Kohli 0.50 0.03 0.05 629 NO

accuracy 0.42 2667

macro avg 0.44 0.33 0.26 2667

weighted avg 0.43 0.42 0.30 2667

F1 Score (macro-average): 0.2642639045353383

Accuracy: 0.4225721784776903

Mean Average Precision (mAP): 0.39568228096691377

A blue squares with white text

Description automatically generated

1. **ViT with YOLO,9 players,25 images per player (model 3)** 15hours

epochs=10

optimizer = AdamWeightDecay(learning\_rate=3e-5, weight\_decay\_rate=0.01

A graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of

Description automatically generatedbatch\_size=32

Classification Report:

precision recall f1-score support

Arshdeep\_Singh 0.00 0.00 0.00 35

Axar\_Patel 0.00 0.00 0.00 117

Hardik\_Pandya 0.06 0.17 0.09 24

Jasprit\_Bumrah 0.25 0.37 0.30 142

Kuldeep\_Yadav 0.00 0.00 0.00 33

Ravindra\_Jadeja 0.00 0.00 0.00 118

Rohit\_Sharma 0.00 0.00 0.00 58

Suryakumar\_Yadav 0.10 0.49 0.17 77

Virat\_Kohli 0.00 0.00 0.00 43

accuracy 0.15 647

macro avg 0.05 0.11 0.06 647

weighted avg 0.07 0.15 0.09 647

F1 Score (macro-average): 0.06168571007340383

Accuracy: 0.14528593508500773

Mean Average Precision (mAP): 0.12839186696721797

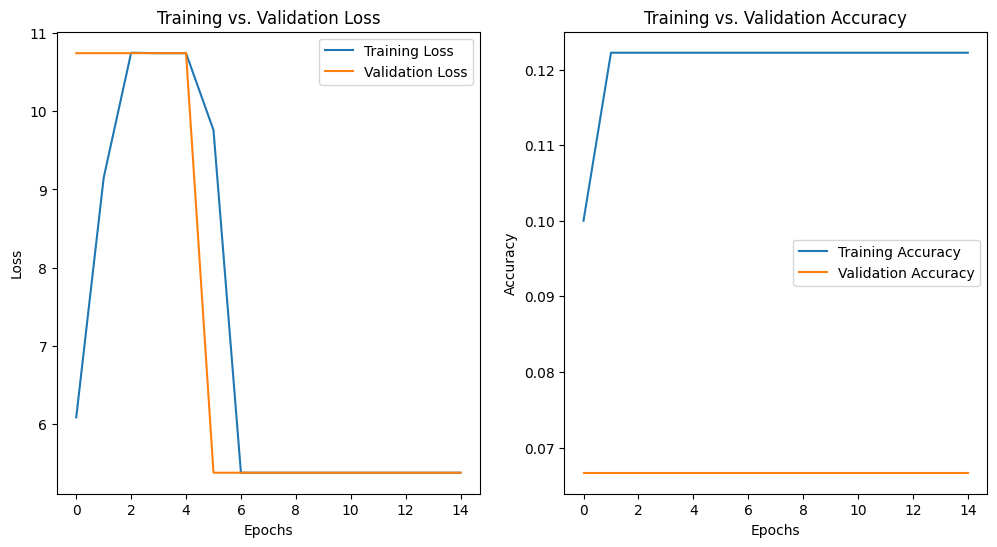
A graph with blue squares and white text

Description automatically generated

1. **ViT with YOLO+Normalized+CLAHE, 9 players,25 images per player (model 4)** 19 hours

epochs=15

optimizer = AdamWeightDecay(learning\_rate=3e-5, weight\_decay\_rate=0.01

batch\_size=32

Classification Report:

precision recall f1-score support

Arshdeep\_Singh 0.00 0.00 0.00 4

Axar\_Patel 0.00 0.00 0.00 7

Hardik\_Pandya 0.00 0.00 0.00 5

Jasprit\_Bumrah 0.00 0.00 0.00 7

Kuldeep\_Yadav 0.00 0.00 0.00 5

Ravindra\_Jadeja 0.00 0.00 0.00 6

Rohit\_Sharma 0.00 0.00 0.00 6

Suryakumar\_Yadav 0.07 1.00 0.12 3

Virat\_Kohli 0.00 0.00 0.00 2

accuracy 0.07 45

macro avg 0.01 0.11 0.01 45

weighted avg 0.00 0.07 0.01 45

F1 Score (macro-average): 0.013888888888888888

Accuracy: 0.06666666666666667

Mean Average Precision (mAP): 0.17052455944177378

A chart with blue and white squares

Description automatically generated with medium confidence

1. **ViT with YOLO+CLAHE, 6 players, all images (model 5)** 16 hours

epochs=10

optimizer = AdamWeightDecay(learning\_rate=3e-5, weight\_decay\_rate=0.01

batch\_size=32

A graph of loss and training

Description automatically generated with medium confidence

Classification Report:

precision recall f1-score support Predicted

Arshdeep\_Singh 0.00 0.00 0.00 320 NO

Axar\_Patel 0.00 0.00 0.00 537 YES

Jasprit\_Bumrah 0.00 0.00 0.00 560 NO

Kuldeep\_Yadav 0.06 0.25 0.10 168 NO

Ravindra\_Jadeja 0.00 0.00 0.00 492 NO

Virat\_Kohli 0.19 0.77 0.30 453 NO

accuracy 0.15 2530

macro avg 0.04 0.17 0.07 2530

weighted avg 0.04 0.15 0.06 2530

F1 Score (macro-average): 0.06710638335220341

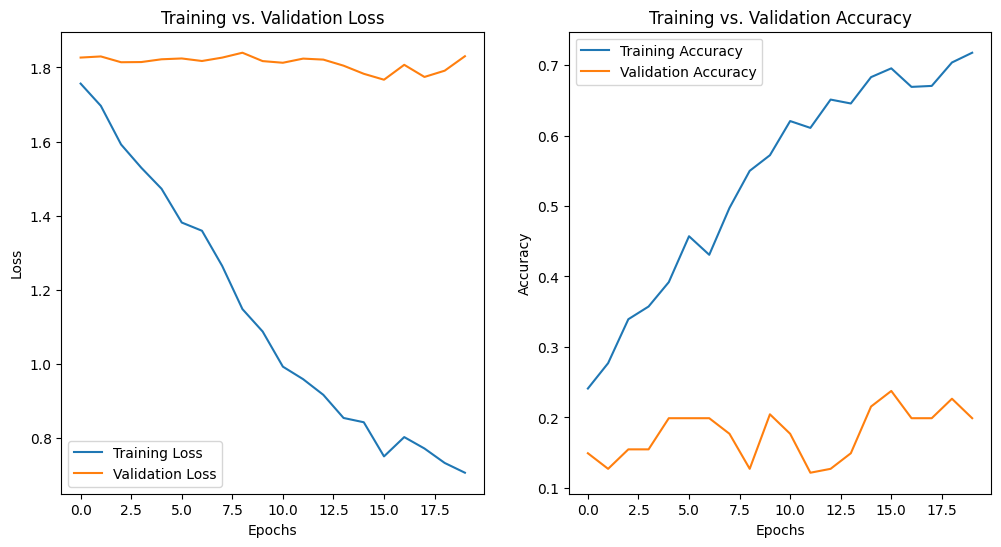
Accuracy: 0.15454545454545454

Mean Average Precision (mAP): 0.17949712994277509

A graph with blue squares and white text

Description automatically generated

1. **EfficientNetB0 with YOLO+Normalized+CLAHE, 6 players, all images**



Classification Report:

precision recall f1-score support Predicted

Arshdeep\_Singh 0.00 0.00 0.00 34 NO

Axar\_Patel 0.00 0.00 0.00 23 NO

Jasprit\_Bumrah 0.00 0.00 0.00 28 YES

Kuldeep\_Yadav 0.00 0.00 0.00 27 NO

Ravindra\_Jadeja 0.00 0.00 0.00 33 NO

Virat\_Kohli 0.20 1.00 0.33 36 NO

accuracy 0.20 181

macro avg 0.03 0.17 0.06 181

weighted avg 0.04 0.20 0.07 181

F1 Score (macro-average): 0.05555555555555556

Accuracy: 0.19889502762430938

Mean Average Precision (mAP): 0.2689384839762784

A chart with blue squares and white text

Description automatically generated

1. **EfficientNetB0 with YOLO+CLAHE, 6 players, all images**

A graph of a training and training loss

Description automatically generated with medium confidence

Classification Report:

precision recall f1-score support Predicted

Arshdeep\_Singh 0.91 0.88 0.90 34 NO

Axar\_Patel 0.82 0.78 0.80 23 YES

Jasprit\_Bumrah 1.00 1.00 1.00 28 NO

Kuldeep\_Yadav 0.96 0.96 0.96 27 NO

Ravindra\_Jadeja 0.94 0.94 0.94 33 NO

Virat\_Kohli 0.92 0.97 0.95 36 NO

accuracy 0.93 181

macro avg 0.93 0.92 0.92 181

weighted avg 0.93 0.93 0.93 181

F1 Score (macro-average): 0.9239708727270916

Accuracy: 0.9281767955801105

Mean Average Precision (mAP): 0.9821984095466108

A graph with blue squares and white text

Description automatically generated

1. **ResNet with YOLO+CLAHE, 6 players, all images-20 epochs**

**A graph of training and validation loss

Description automatically generated**

Classification Report:

precision recall f1-score support Predicted

Arshdeep\_Singh 0.93 0.82 0.87 34 NO

Axar\_Patel 0.77 0.74 0.76 23 YES

Jasprit\_Bumrah 0.90 0.96 0.93 28 NO

Kuldeep\_Yadav 0.92 0.89 0.91 27 YES

Ravindra\_Jadeja 0.82 0.94 0.87 33 YES

Virat\_Kohli 0.94 0.92 0.93 36 NO

accuracy 0.88 181

macro avg 0.88 0.88 0.88 181

weighted avg 0.89 0.88 0.88 181

F1 Score (macro-average): 0.8783445528468529

Train Accuracy: 0.9986149584487535

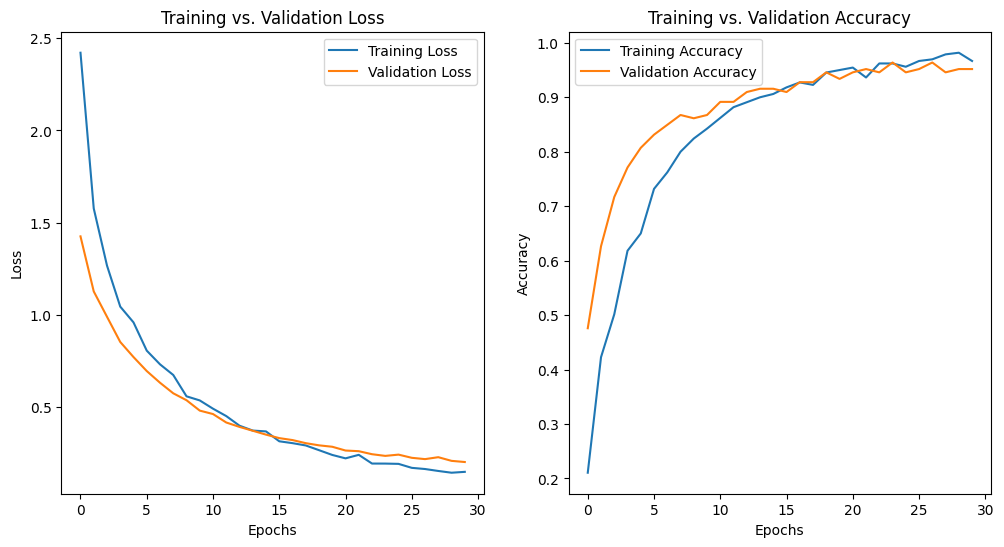
Test Accuracy: 0.8839779005524862

Mean Average Precision (mAP): 0.9431579158478929

A graph with blue squares and white text

Description automatically generated

1. **ResNet with YOLO+CLAHE, 6 players, all images-30 epochs**



Classification Report:

precision recall f1-score support Predicted

Arshdeep\_Singh 0.88 0.97 0.92 30 YES

Axar\_Patel 0.96 0.89 0.93 28 YES

Jasprit\_Bumrah 1.00 0.97 0.98 30 NO

Kuldeep\_Yadav 0.94 1.00 0.97 3 YES

Ravindra\_Jadeja 0.95 0.88 0.91 24 YES

Virat\_Kohli 1.00 1.00 1.00 23 NO

accuracy 0.95 166

macro avg 0.96 0.95 0.95 166

weighted avg 0.95 0.95 0.95 166

F1 Score (macro-average): 0.9519008620465571

Train Accuracy: 1.0

Test Accuracy: 0.9518072289156626

Mean Average Precision (mAP): 0.9929924762723799

A graph with blue squares and white text

Description automatically generated

1. **ResNet with YOLO+Normalized+CLAHE, 6 players, all images**

A graph of a graph of a training loss

Description automatically generated with medium confidence

Classification Report:

precision recall f1-score support Predicted

Arshdeep\_Singh 0.53 0.74 0.62 34 NO

Axar\_Patel 0.67 0.35 0.46 23 NO

Jasprit\_Bumrah 0.62 0.64 0.63 28 NO

Kuldeep\_Yadav 0.52 0.63 0.57 27 YES

Ravindra\_Jadeja 0.47 0.52 0.49 33 NO

Virat\_Kohli 0.71 0.47 0.57 36 NO

accuracy 0.56 181

macro avg 0.59 0.56 0.56 181

weighted avg 0.58 0.56 0.56 181

F1 Score (macro-average): 0.5553487852750503

Train Accuracy: 0.7714681440443213

Test Accuracy: 0.56353591160221

Mean Average Precision (mAP): 0.6781088403586856

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Description automatically generated

1. **MobileNetV2 with YOLO+CLAHE, 6 players, all images**

A graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of

Description automatically generated

Classification Report:

precision recall f1-score support Predicted

Arshdeep\_Singh 0.66 0.74 0.69 34 YES

Axar\_Patel 0.71 0.43 0.54 23 NO

Jasprit\_Bumrah 0.86 0.86 0.86 28 NO

Kuldeep\_Yadav 0.87 0.74 0.80 27 NO

Ravindra\_Jadeja 0.56 0.82 0.67 33 NO

Virat\_Kohli 0.80 0.67 0.73 36 YES

accuracy 0.72 181

macro avg 0.74 0.71 0.71 181

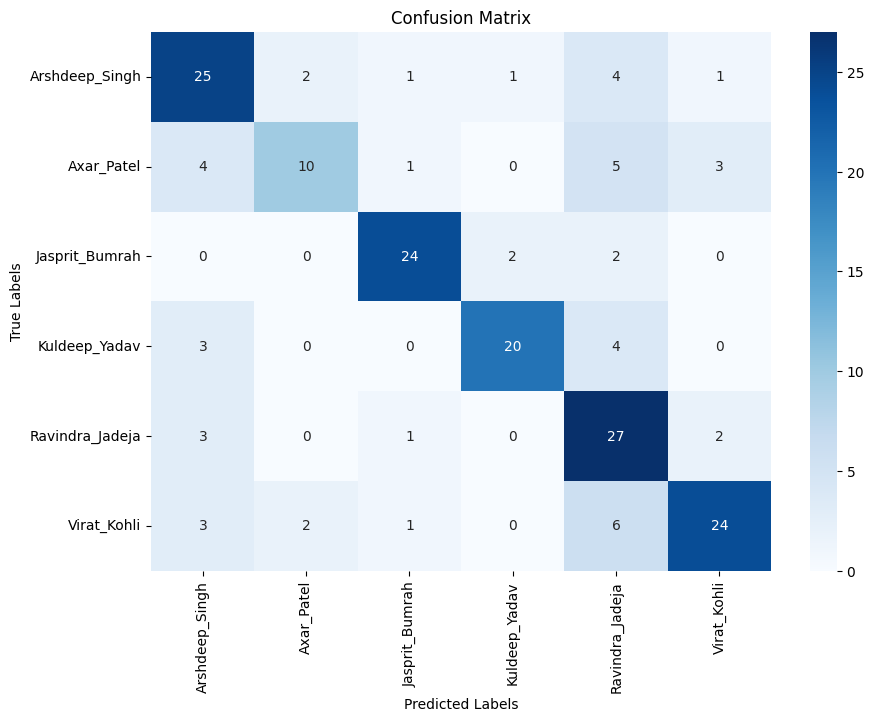
weighted avg 0.74 0.72 0.72 181

F1 Score (macro-average): 0.7143445393445393

Train Accuracy: 0.9958448753462604

Test Accuracy: 0.7182320441988951

Mean Average Precision (mAP): 0.8081841479772186



1. **InceptionV3 with YOLO+CLAHE, 6 players, all images**

A graph of training and validation loss

Description automatically generated

Classification Report:

precision recall f1-score support Predicted

Arshdeep\_Singh 0.36 0.41 0.38 34 NO

Axar\_Patel 0.45 0.43 0.44 23 NO

Jasprit\_Bumrah 0.57 0.46 0.51 28 NO

Kuldeep\_Yadav 0.28 0.26 0.27 27 NO

Ravindra\_Jadeja 0.39 0.48 0.43 33 NO

Virat\_Kohli 0.68 0.58 0.63 36 NO

accuracy 0.45 181

macro avg 0.45 0.44 0.44 181

weighted avg 0.46 0.45 0.45 181

F1 Score (macro-average): 0.4443898138589468

Train Accuracy: 0.6620498614958449

Test Accuracy: 0.44751381215469616

Mean Average Precision (mAP): 0.49936544603165217

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Description automatically generated

1. **DenseNet with YOLO+CLAHE, 6 players, all images**

A graph of training and validation loss

Description automatically generated

Classification Report:

precision recall f1-score support Predicted

Arshdeep\_Singh 0.66 0.62 0.64 34 YES

Axar\_Patel 0.63 0.52 0.57 23 NO

Jasprit\_Bumrah 0.82 0.64 0.72 28 NO

Kuldeep\_Yadav 0.64 0.67 0.65 27 NO

Ravindra\_Jadeja 0.62 0.79 0.69 33 NO

Virat\_Kohli 0.82 0.86 0.84 36 YES

accuracy 0.70 181

macro avg 0.70 0.68 0.69 181

weighted avg 0.70 0.70 0.69 181

F1 Score (macro-average): 0.6855848055848056

Train Accuracy: 0.8878116343490304

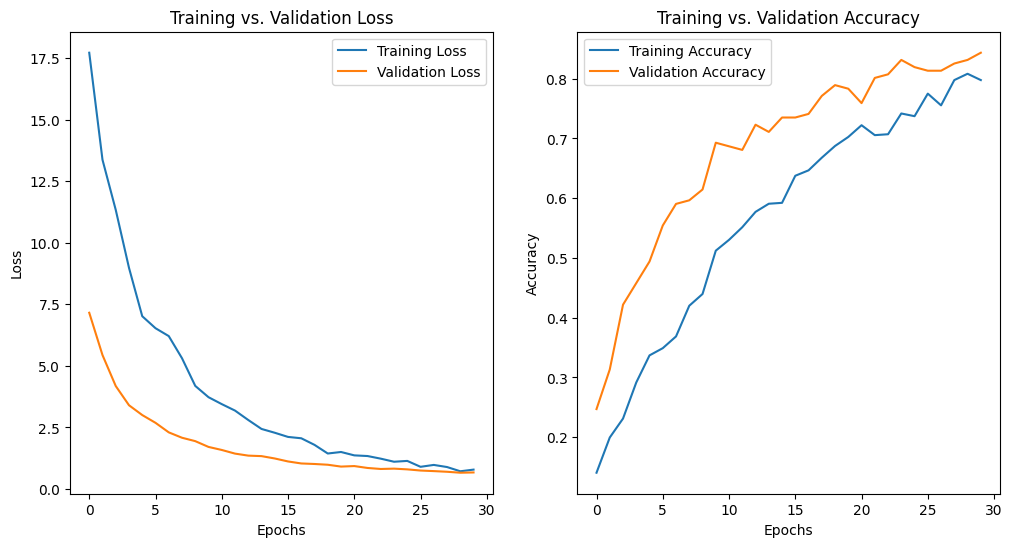
Test Accuracy: 0.6961325966850829

Mean Average Precision (mAP): 0.7465469869226823

A blue squares with white text

Description automatically generated

1. **VGG16 with YOLO+CLAHE, 6 players, all images**



Classification Report:

precision recall f1-score support Predicted

Arshdeep\_Singh 0.84 0.90 0.87 30 YES

Axar\_Patel 0.81 0.88 0.84 24 NO

Jasprit\_Bumrah 0.84 0.93 0.89 29 NO

Kuldeep\_Yadav 0.78 0.86 0.82 29 NO

Ravindra\_Jadeja 0.90 0.63 0.75 30 NO

Virat\_Kohli 0.91 0.88 0.89 24 NO

accuracy 0.84 166

macro avg 0.85 0.85 0.84 166

weighted avg 0.85 0.84 0.84 166

F1 Score (macro-average): 0.8424334725357753

Train Accuracy: 0.972809667673716

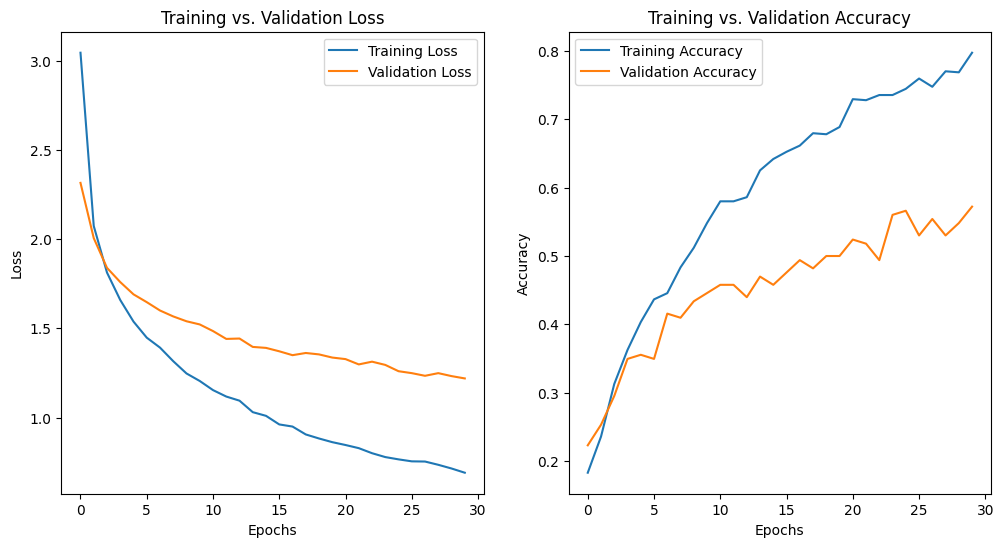
Test Accuracy: 0.8433734939759037

Mean Average Precision (mAP): 0.8990265556710101

A blue squares with white text

Description automatically generated

1. **NASNet with YOLO+CLAHE, 6 players, all images**



Classification Report:

precision recall f1-score support Predicted

Arshdeep\_Singh 0.39 0.50 0.44 30 NO

Axar\_Patel 0.61 0.58 0.60 24 NO

Jasprit\_Bumrah 0.79 0.52 0.62 29 NO

Kuldeep\_Yadav 0.55 0.59 0.57 29 NO

Ravindra\_Jadeja 0.57 0.57 0.57 30 NO

Virat\_Kohli 0.68 0.71 0.69 24 NO

accuracy 0.57 166

macro avg 0.60 0.58 0.58 166

weighted avg 0.59 0.57 0.58 166

F1 Score (macro-average): 0.5815220059655068

Train Accuracy: 0.8172205438066465

Test Accuracy: 0.572289156626506

Mean Average Precision (mAP): 0.6190944697638547

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Description automatically generated

1. **Inception-ResNet-V2 with YOLO+CLAHE, 6 players, all images**

A graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of

Description automatically generated

Classification Report:

precision recall f1-score support Predicted

Arshdeep\_Singh 0.00 0.00 0.00 30 NO

Axar\_Patel 0.00 0.00 0.00 24 NO

Jasprit\_Bumrah 0.00 0.00 0.00 29 NO

Kuldeep\_Yadav 0.00 0.00 0.00 29 NO

Ravindra\_Jadeja 0.00 0.00 0.00 30 NO

Virat\_Kohli 0.14 1.00 0.25 24 NO

accuracy 0.14 166

macro avg 0.02 0.17 0.04 166

weighted avg 0.02 0.14 0.04 166

F1 Score (macro-average): 0.042105263157894736

Train Accuracy: 0.18277945619335348

Test Accuracy: 0.14457831325301204

Mean Average Precision (mAP): 0.1750410697024074

A graph with blue squares and white text

Description automatically generated

1. **Xception with YOLO+CLAHE, 6 players, all images**

A graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of

Description automatically generated

Classification Report:

precision recall f1-score support Predicted

Arshdeep\_Singh 0.71 0.73 0.72 30 YES

Axar\_Patel 0.58 0.46 0.51 24 YES

Jasprit\_Bumrah 0.38 0.41 0.39 29 NO

Kuldeep\_Yadav 0.61 0.66 0.63 29 NO

Ravindra\_Jadeja 0.72 0.60 0.65 30 NO

Virat\_Kohli 0.71 0.83 0.77 24 NO

accuracy 0.61 166

macro avg 0.62 0.62 0.61 166

weighted avg 0.62 0.61 0.61 166

F1 Score (macro-average): 0.6139152604078262

Train Accuracy: 0.9924471299093656

Test Accuracy: 0.6144578313253012

Mean Average Precision (mAP): 0.6867499680486353

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Description automatically generated

**ResNet50**

1. With 5 fold Cross Validation

A graph of loss and loss of a curve

Description automatically generated with medium confidence A graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of

Description automatically generated

Classification Report:

precision recall f1-score support

Arshdeep\_Singh 0.94 1.00 0.97 30

Axar\_Patel 0.93 0.89 0.91 28

Jasprit\_Bumrah 0.97 1.00 0.98 30

Kuldeep\_Yadav 1.00 1.00 1.00 31

Ravindra\_Jadeja 1.00 0.96 0.98 24

Virat\_Kohli 1.00 0.96 0.98 23

accuracy 0.97 166

macro avg 0.97 0.97 0.97 166

weighted avg 0.97 0.97 0.97 166

F1 Score (macro-average): 0.9694900973308211

Train Accuracy: 1.0

Test Accuracy: 0.9698795180722891

Mean Average Precision (mAP): 0.9906417649610968

A graph with blue squares and white text

Description automatically generated

1. ResNet as a feature extractor and SVM as a classifier

Classification Report:

precision recall f1-score support

Arshdeep\_Singh 0.91 1.00 0.95 30

Axar\_Patel 1.00 0.93 0.96 28

Jasprit\_Bumrah 1.00 0.93 0.97 30

Kuldeep\_Yadav 0.94 1.00 0.97 31

Ravindra\_Jadeja 0.95 0.88 0.91 24

Virat\_Kohli 0.96 1.00 0.98 23

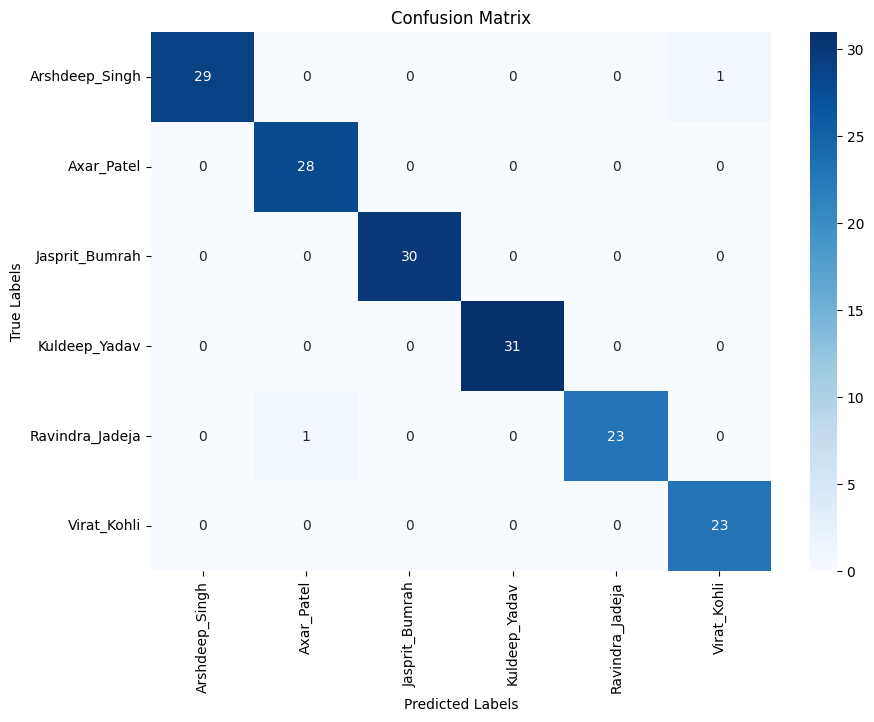
accuracy 0.96 166

macro avg 0.96 0.96 0.96 166

weighted avg 0.96 0.96 0.96 166

Training Accuracy: 0.9696969696969697

Testing Accuracy: 0.9578313253012049

A graph of a training set size

Description automatically generated with medium confidence

1. ResNet as a feature extractor and Random Forest as a classifier

Classification Report:

precision recall f1-score support

Arshdeep\_Singh 0.94 0.97 0.95 30

Axar\_Patel 1.00 0.96 0.98 28

Jasprit\_Bumrah 1.00 0.90 0.95 30

Kuldeep\_Yadav 0.97 1.00 0.98 31

Ravindra\_Jadeja 0.92 0.92 0.92 24

Virat\_Kohli 0.92 1.00 0.96 23

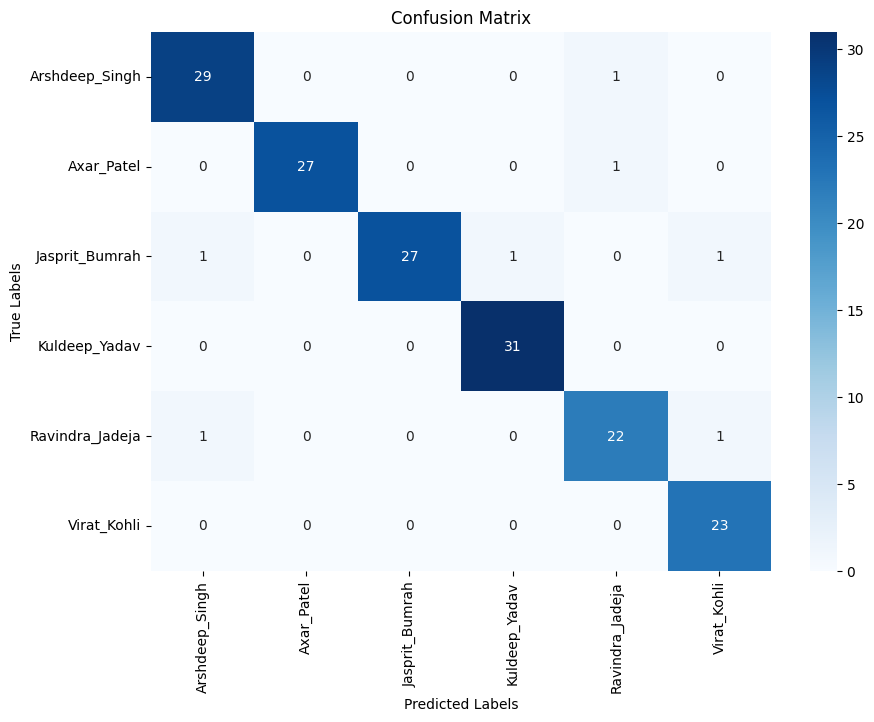
accuracy 0.96 166

macro avg 0.96 0.96 0.96 166

weighted avg 0.96 0.96 0.96 166

Training Accuracy: 1.0

Testing Accuracy: 0.9578313253012049



1. ResNet as a feature extractor and Decision Tree as a classifier

Classification Report:

precision recall f1-score support

Arshdeep\_Singh 0.67 0.53 0.59 30

Axar\_Patel 0.56 0.64 0.60 28

Jasprit\_Bumrah 0.73 0.73 0.73 30

Kuldeep\_Yadav 0.76 0.81 0.78 31

Ravindra\_Jadeja 0.57 0.54 0.55 24

Virat\_Kohli 0.67 0.70 0.68 23

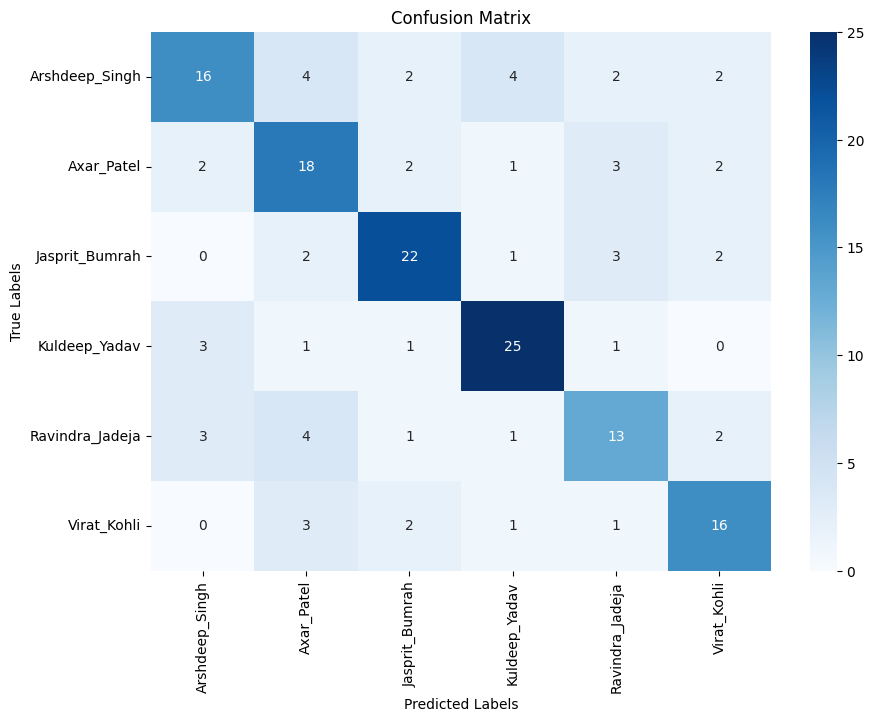
accuracy 0.66 166

macro avg 0.66 0.66 0.66 166

weighted avg 0.66 0.66 0.66 166

Training Accuracy: 1.0

Testing Accuracy: 0.6626506024096386



1. ResNet as a feature extractor and KNN as a classifier

Classification Report:

precision recall f1-score support

Arshdeep\_Singh 0.91 0.97 0.94 30

Axar\_Patel 0.97 1.00 0.98 28

Jasprit\_Bumrah 1.00 0.87 0.93 30

Kuldeep\_Yadav 0.97 1.00 0.98 31

Ravindra\_Jadeja 1.00 0.92 0.96 24

Virat\_Kohli 0.92 1.00 0.96 23

accuracy 0.96 166

macro avg 0.96 0.96 0.96 166

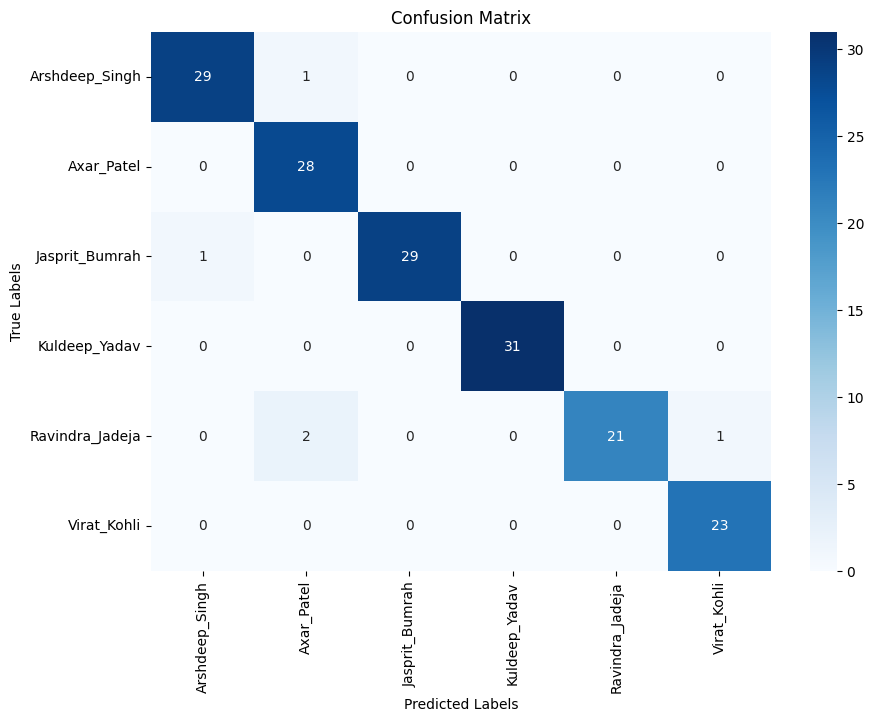
weighted avg 0.96 0.96 0.96 166

Training Accuracy: 0.9666666666666667

Testing Accuracy: 0.9578313253012049

A graph of a graph

Description automatically generated with medium confidence



1. ResNet as a feature extractor and Gradient Boost Machine as a classifier

Classification Report:

precision recall f1-score support

Arshdeep\_Singh 0.82 0.93 0.87 30

Axar\_Patel 0.92 0.82 0.87 28

Jasprit\_Bumrah 0.93 0.93 0.93 30

Kuldeep\_Yadav 0.94 1.00 0.97 31

Ravindra\_Jadeja 0.90 0.75 0.82 24

Virat\_Kohli 0.92 0.96 0.94 23

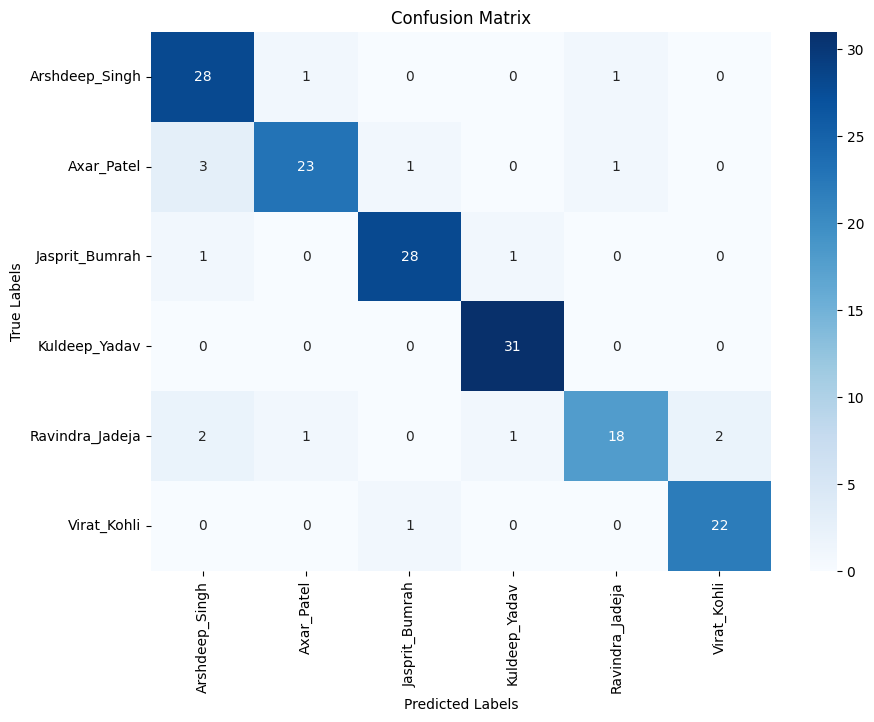
accuracy 0.90 166

macro avg 0.91 0.90 0.90 166

weighted avg 0.91 0.90 0.90 166

Training Accuracy: 1.0

Testing Accuracy: 0.9036144578313253



1. RestNet as a feature extractor and KNN and SVM as a classifier(Stacking)

Training Accuracy: 1.0

Testing Accuracy: 0.9939759036144579

Classification Report:

precision recall f1-score support

Arshdeep\_Singh 0.97 1.00 0.98 30

Axar\_Patel 1.00 1.00 1.00 28

Jasprit\_Bumrah 1.00 0.97 0.98 30

Kuldeep\_Yadav 1.00 1.00 1.00 31

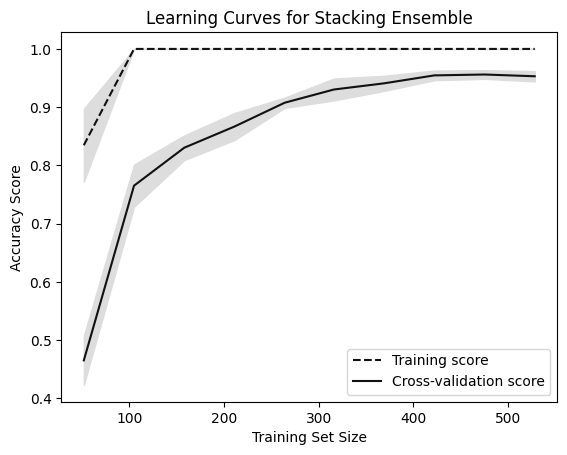
Ravindra\_Jadeja 1.00 1.00 1.00 24

Virat\_Kohli 1.00 1.00 1.00 23

accuracy 0.99 166

macro avg 0.99 0.99 0.99 166

weighted avg 0.99 0.99 0.99 166



A graph with blue squares and white text

Description automatically generated

1. RestNet as a feature extractor and KNN and SVM as a classifier (Stacking) with tuning the parameters

Training Accuracy: 0.9848484848484849

Testing Accuracy: 0.9939759036144579

Classification Report:

precision recall f1-score support

Arshdeep\_Singh 1.00 1.00 1.00 30

Axar\_Patel 1.00 1.00 1.00 28

Jasprit\_Bumrah 1.00 1.00 1.00 30

Kuldeep\_Yadav 1.00 1.00 1.00 31

Ravindra\_Jadeja 1.00 0.96 0.98 24

Virat\_Kohli 0.96 1.00 0.98 23

accuracy 0.99 166

macro avg 0.99 0.99 0.99 166

weighted avg 0.99 0.99 0.99 166

A graph of a graph

Description automatically generated with medium confidence

A graph with blue squares and white text

Description automatically generatedA graph with blue squares and white text

Description automatically generated

1. RestNet as a feature extractor and KNN and SVM as a classifier(Voting Classifier) with tuning the parameters

Training Accuracy: 0.9681818181818181

Testing Accuracy: 0.9578313253012049

Classification Report:

precision recall f1-score support

Arshdeep\_Singh 0.83 1.00 0.91 30

Axar\_Patel 1.00 0.96 0.98 28

Jasprit\_Bumrah 1.00 0.87 0.93 30

Kuldeep\_Yadav 0.97 1.00 0.98 31

Ravindra\_Jadeja 1.00 0.92 0.96 24

Virat\_Kohli 1.00 1.00 1.00 23

accuracy 0.96 166

macro avg 0.97 0.96 0.96 166

weighted avg 0.96 0.96 0.96 166

A graph of a graph showing the number of steps

Description automatically generated with medium confidence

A graph with blue squares and white text

Description automatically generated

1. RestNet as a feature extractor and KNN and SVM as a classifier(Decision Level Fusion ) with tuning the parameters

Training Accuracy: 0.9681818181818183

Testing Accuracy: 0.9578313253012049

Classification Report:

precision recall f1-score support

Arshdeep\_Singh 1.00 1.00 1.00 30

Axar\_Patel 1.00 1.00 1.00 28

Jasprit\_Bumrah 1.00 1.00 1.00 30

Kuldeep\_Yadav 1.00 1.00 1.00 31

Ravindra\_Jadeja 1.00 0.96 0.98 24

Virat\_Kohli 0.96 1.00 0.98 23

accuracy 0.99 166

macro avg 0.99 0.99 0.99 166

weighted avg 0.99 0.99 0.99 166

A graph with blue squares and white text

Description automatically generated

**RestNet as a feature extractor and KNN & SVM as a classifier(Stacking) with tuning the parameters**

Training Accuracy: 0.9845440494590417

Testing Accuracy: 0.9814814814814815

Classification Report:

precision recall f1-score support

Arshdeep\_Singh 0.97 1.00 0.98 29

Axar\_Patel 1.00 0.89 0.94 19

Jasprit\_Bumrah 1.00 1.00 1.00 28

Kuldeep\_Yadav 1.00 1.00 1.00 33

Ravindra\_Jadeja 0.96 0.96 0.96 26

Virat\_Kohli 0.96 1.00 0.98 27

accuracy 0.98 162

macro avg 0.98 0.98 0.98 162

weighted avg 0.98 0.98 0.98 162

A graph of a number of red and green lines

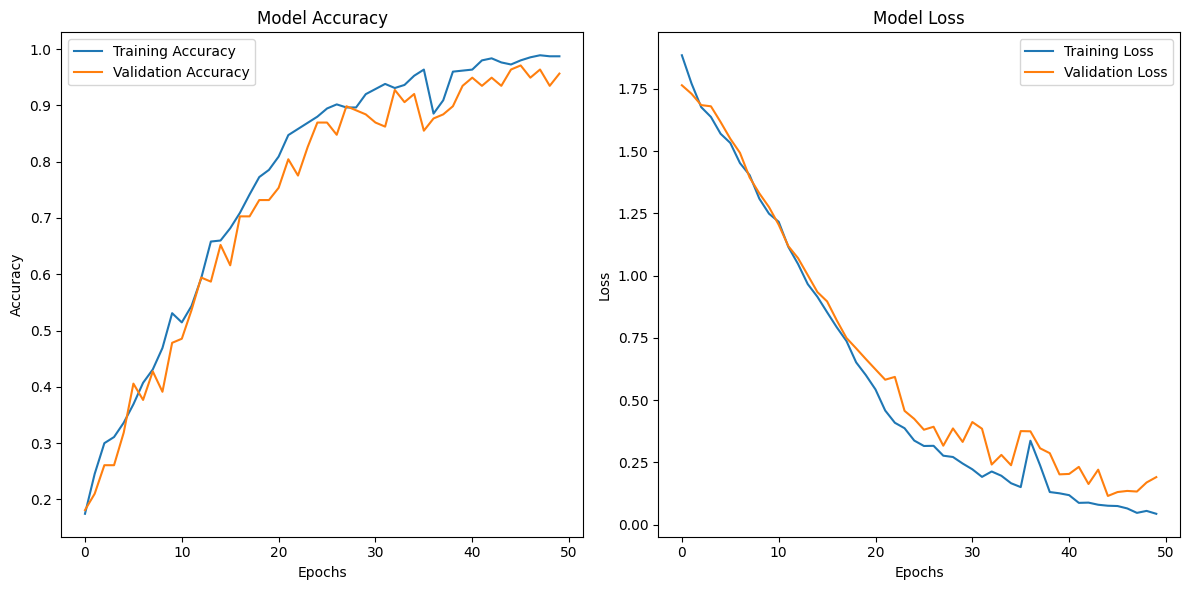
Description automatically generated

A graph with blue squares and white text

Description automatically generated

**TEMPORAL MODEL**

1. LSTM with the features step length, joint velocities, joint angles



Train accuracy: 1.0

Test accuracy: 0.95652174949646

Classification Report:

precision recall f1-score support

Arshdeep\_Singh 0.90 0.97 0.93 29

Axar\_Patel 1.00 1.00 1.00 14

Jasprit\_Bumrah 0.82 1.00 0.90 9

Kuldeep\_Yadav 1.00 1.00 1.00 33

Ravindra\_Jadeja 1.00 0.93 0.96 28

Virat\_Kohli 0.96 0.88 0.92 25

accuracy 0.96 138

macro avg 0.95 0.96 0.95 138

weighted avg 0.96 0.96 0.96 138

A graph with blue squares and white text

Description automatically generated

1. LSTM with the features step length, joint velocities, joint angles (adjusted dropout)

A graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of a graph of

Description automatically generated

Train accuracy: 0.9745454788208008

Test accuracy: 0.9420289993286133

Classification Report:

precision recall f1-score support

Arshdeep\_Singh 0.91 1.00 0.95 29

Axar\_Patel 0.92 0.86 0.89 14

Jasprit\_Bumrah 0.90 1.00 0.95 9

Kuldeep\_Yadav 0.97 0.91 0.94 33

Ravindra\_Jadeja 0.93 0.93 0.93 28

Virat\_Kohli 1.00 0.96 0.98 25

accuracy 0.94 138

macro avg 0.94 0.94 0.94 138

weighted avg 0.94 0.94 0.94 138

