# Progress Report on CNN Model Development

## Initial Model:

Model Used: EfficientNetB0

A black screen with white text

Description automatically generated

Accuracy Achieved: 17.5%

## First Custom CNN Model:

A screen shot of a computer program

Description automatically generated

**Accuracy Achieved: 40%**

## Second Custom CNN Model:

A screen shot of a computer program

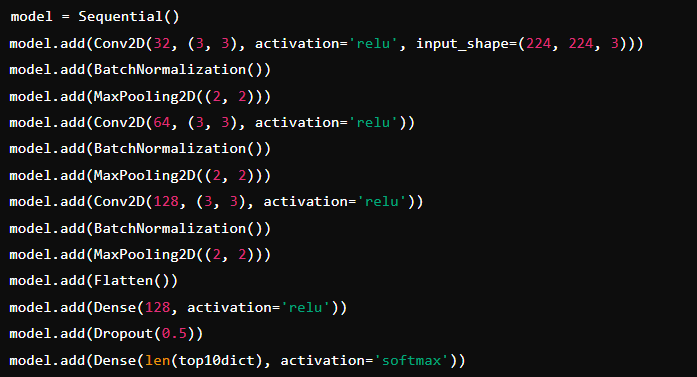
Description automatically generated

**Accuracy Achieved: 39%**

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Description automatically generated

## Third Custom CNN Model:



**Accuracy Achieved: 17%**

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Description automatically generated with medium confidence

## Best Performing Custom CNN Model:

A screen shot of a computer program

Description automatically generated

**Training Epochs: 30**

**Accuracy Achieved: 83%**

A graph of different colored lines

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## Summary:

The initial EfficientNetB0 model gave a baseline accuracy of 17.5%.

Various custom CNN models were experimented with, achieving up to 40% accuracy.

The best performing model achieved 83% accuracy after 30 epochs by simplifying the architecture and removing batch normalization layers.

## Future Work:

Experiment with different learning rates, batch sizes, and optimizers to further enhance model performance.

Combine the predictions of multiple models to improve accuracy and robustness. (Ensemble Methods)

Experiment with more complex architectures, including deeper networks and different types of layers.

Evaluation Metrics: Use additional evaluation metrics (e.g., precision, recall, F1 score) to gain a more comprehensive understanding of model performance.