

Predicting Alzheimer's stages using CNN

Hunter Owen



OVERVIEW

1. Background

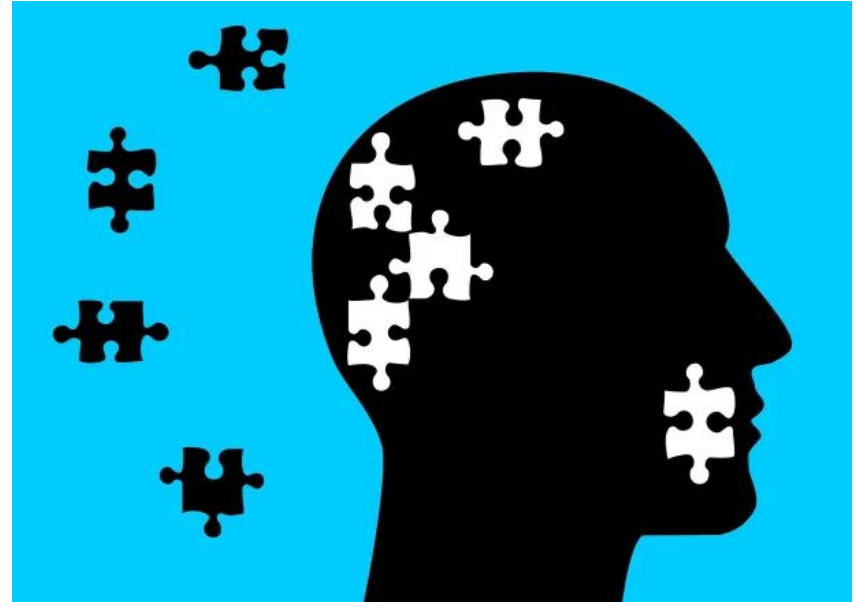
- a. More than 5 million Americans
- b. One in 10 people age 65 and older

2. Goal

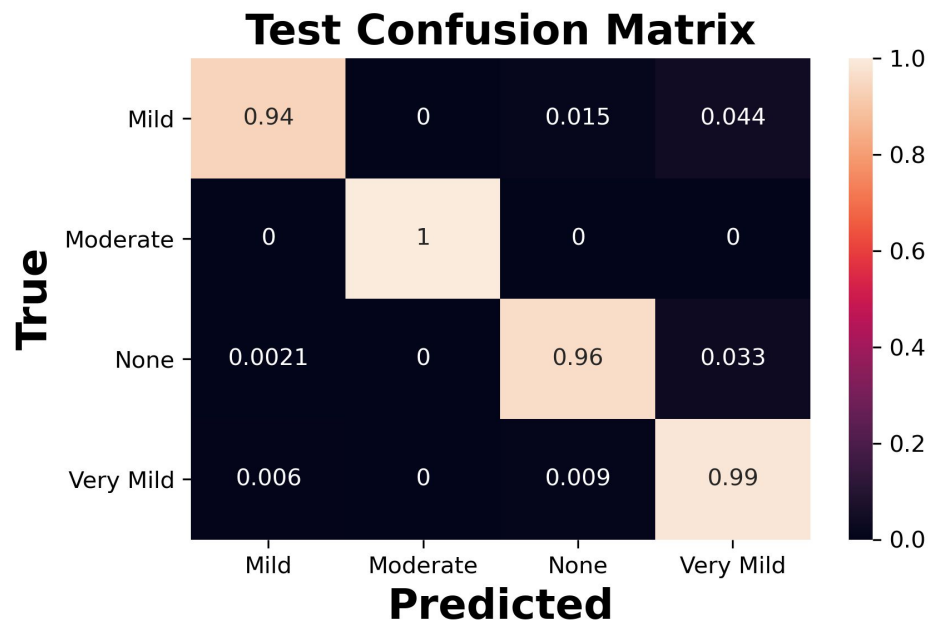
- a. Model that helps diagnose Alzheimer's
- b. Uses MRI photos

3. Data

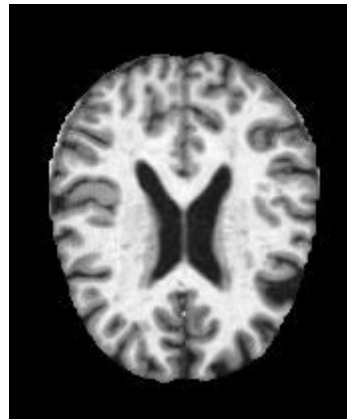
- a. Dataset from Kaggle



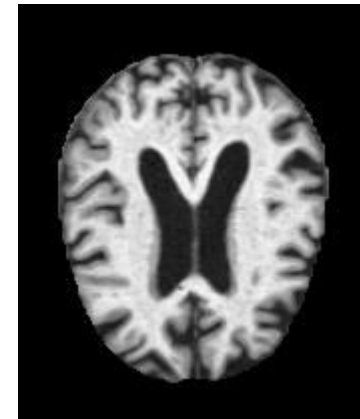
Results



Normal Brain



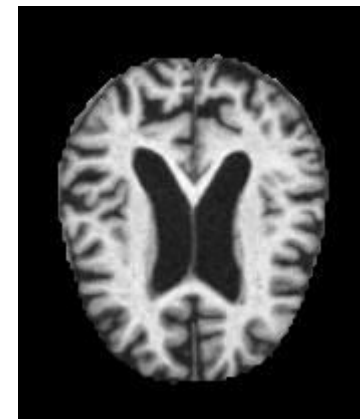
Very Mild Alzheimer's



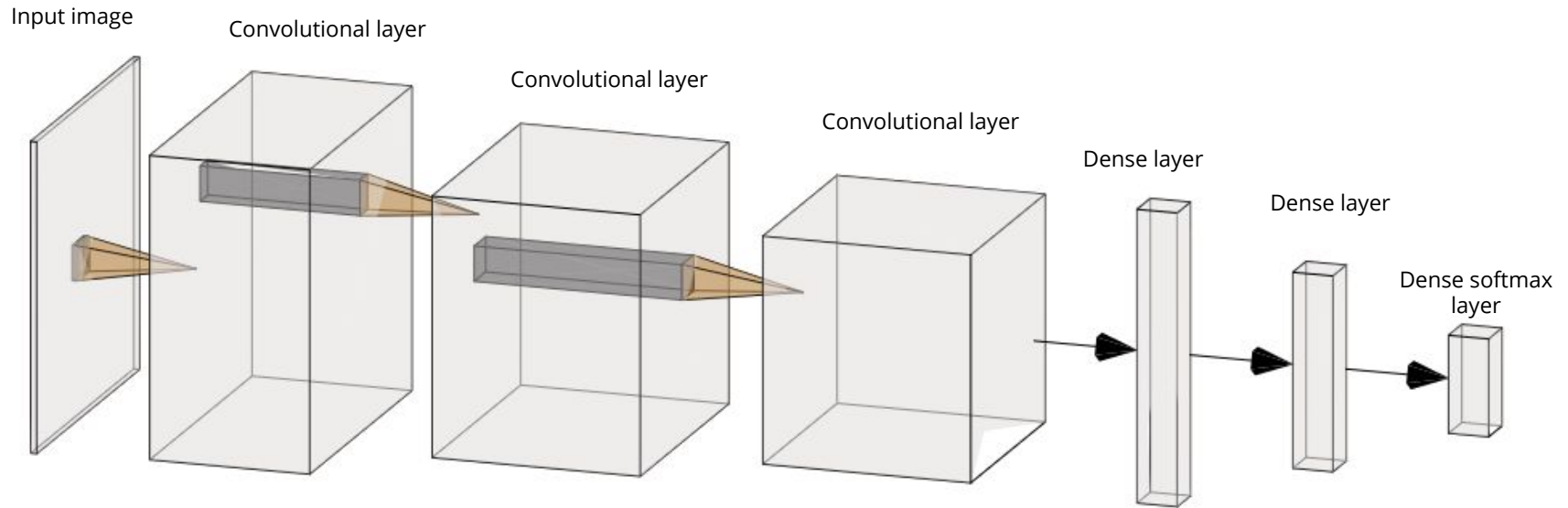
Mild Alzheimer's



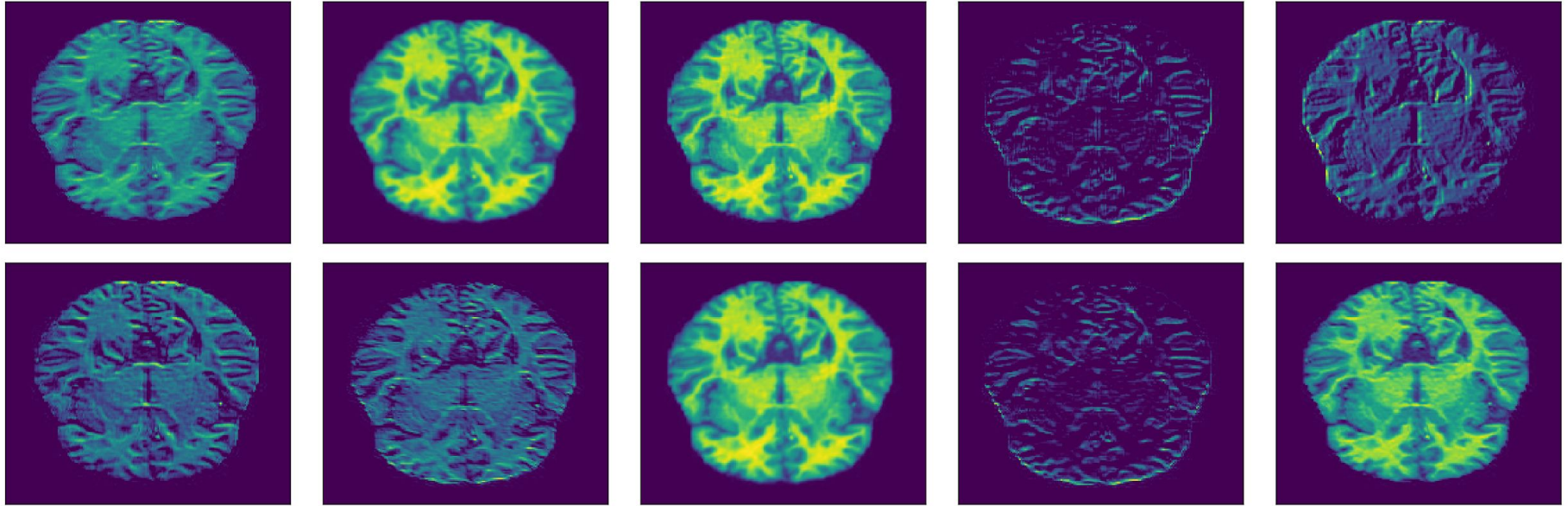
Moderate Alzheimer's



CNN Architecture



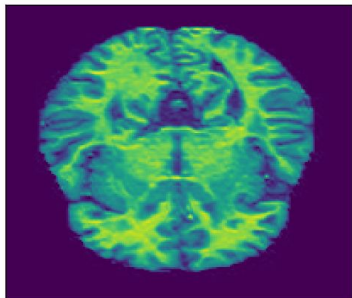
Filters on first layer



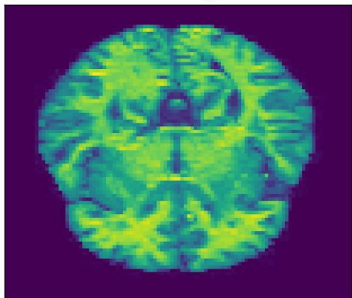
CNN layers

Convolutional and Pooling Layers

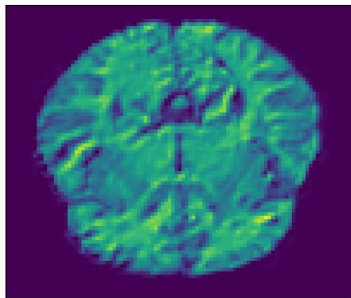
Conv2D



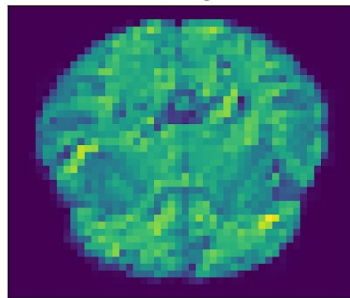
Max Pooling2D



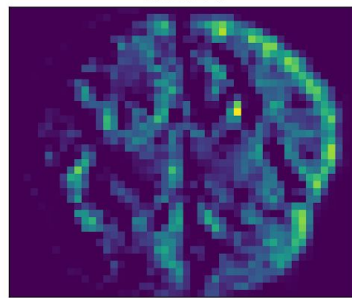
Conv2D 1



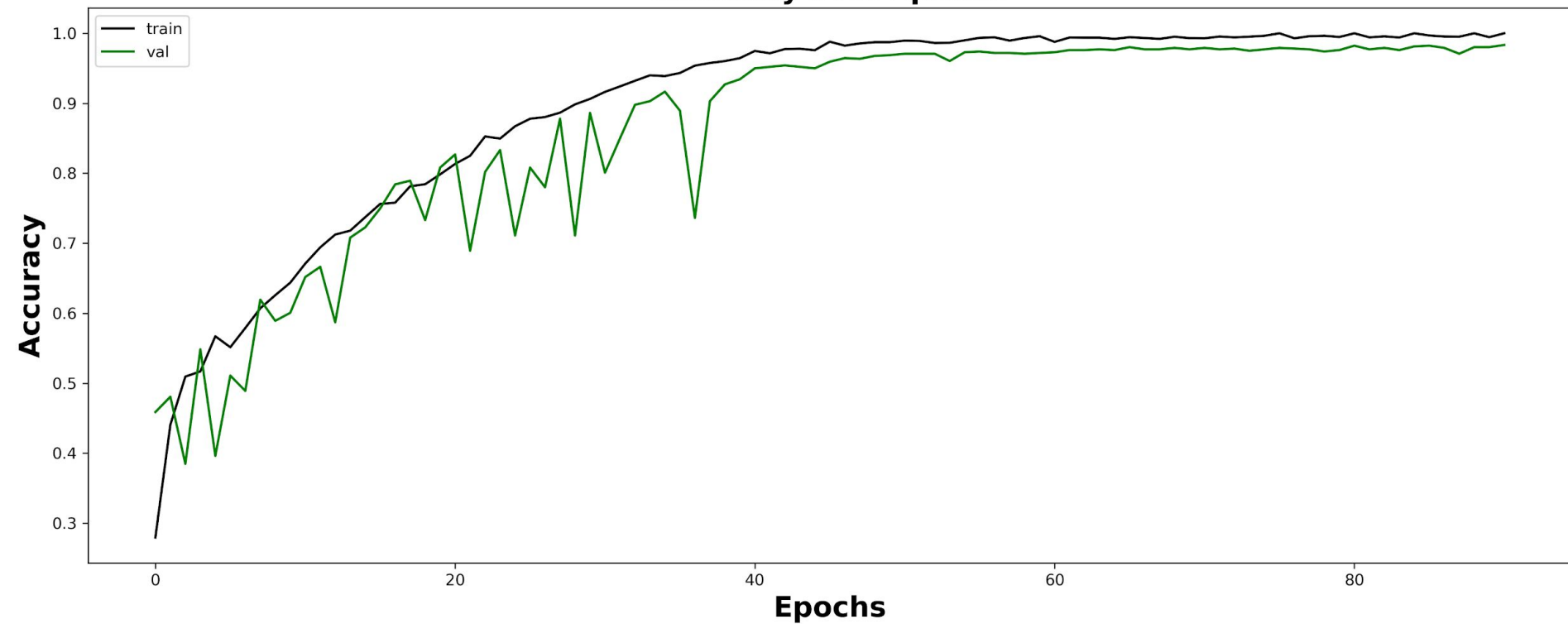
Max Pooling2D 1



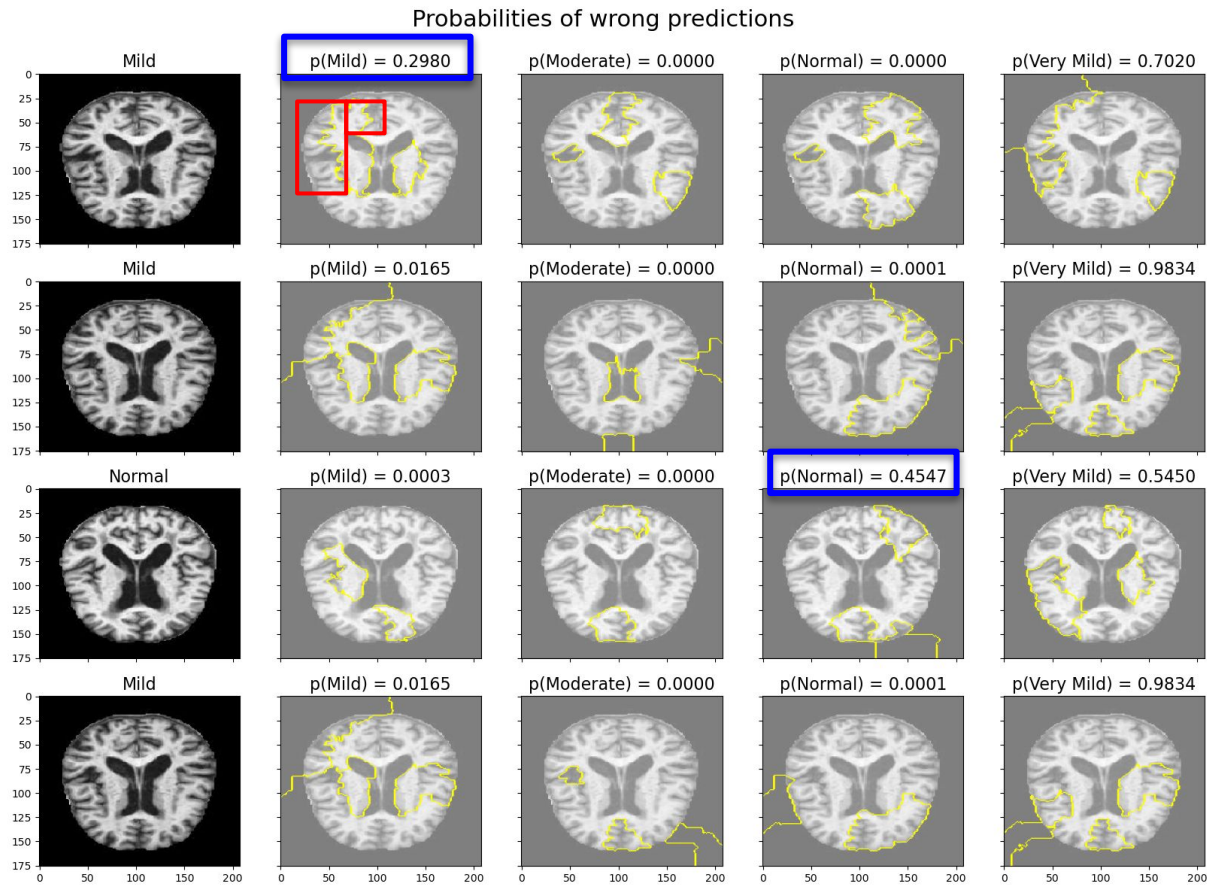
Conv2D 2



Accuracy over Epochs



Incorrect Predictions



Takeaways

- High Accuracy Model
- Aid diagnose Alzheimer's



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