Brain Tumor Classification

By: Cooper Thompson

Project Summary

Built a model to look at a MRI scan of a brain to determine if someone has a tumor or not.

Outline

Why?

Data

Model

Results

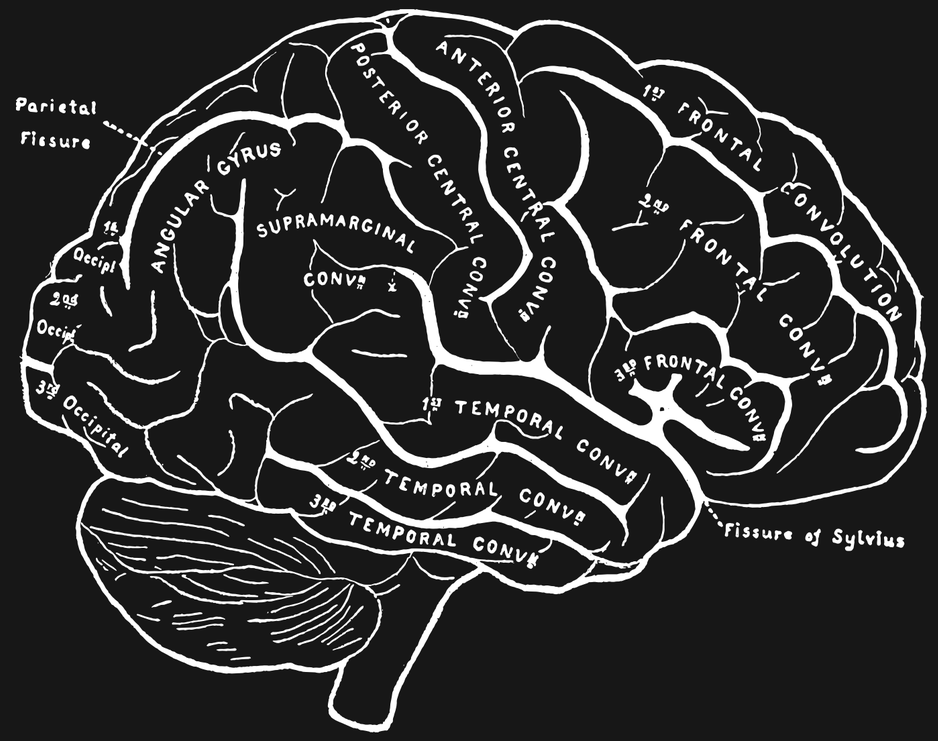
Next Steps

How can this help?

This could optimize the process of reading brain scans, and flag any that it believes are tumors for a doctor to look at.

Important Consideration

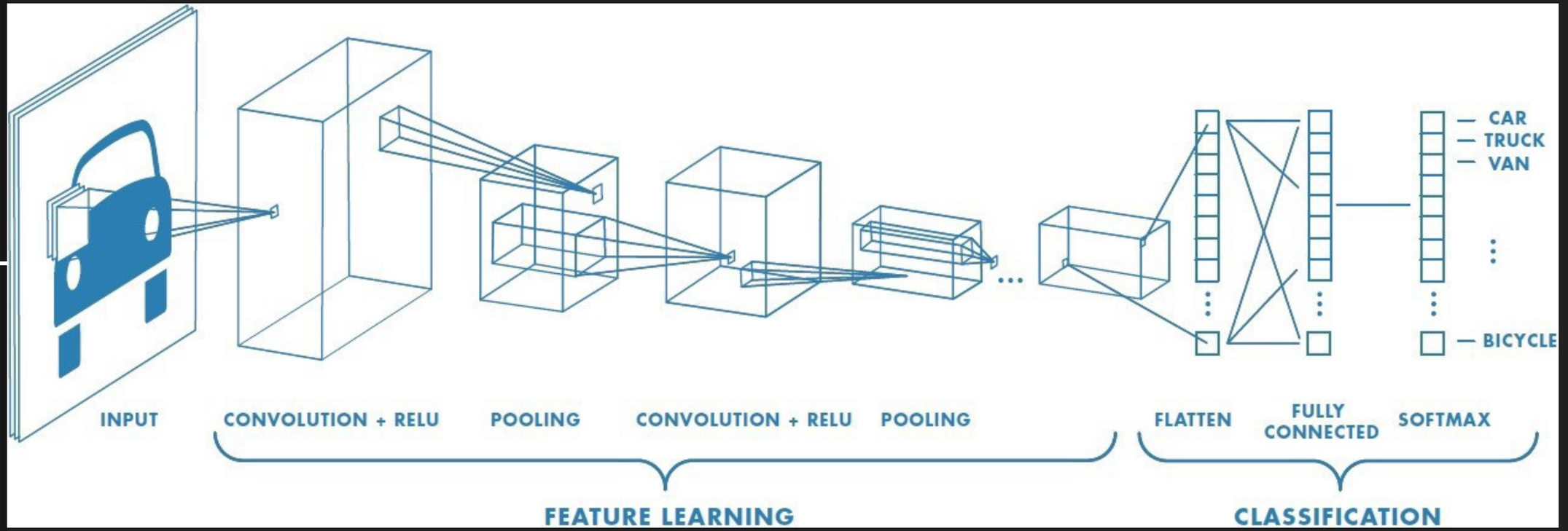
- FALSE NEGATIVES
- RECALL SCORE



Data

- Kaggle
- MRI Brain Scans
- 3,300 Data Points
- 4 initial classifications
- Data Augmentation

Convolutional Neural Network

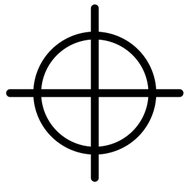


Testing Results

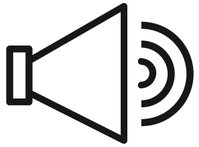
Accuracy score: 98.5%

Recall Score: 99%

50 New Scans

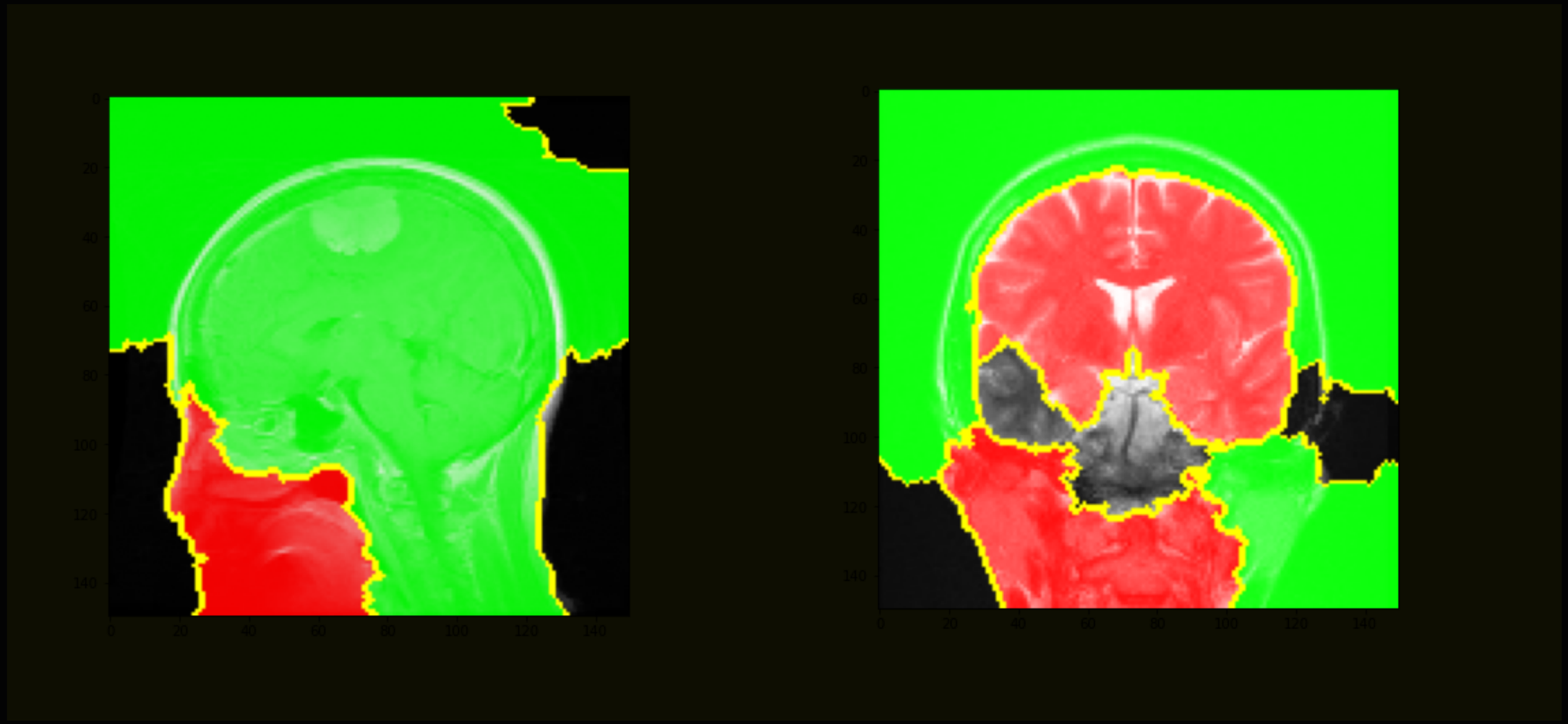


Accuracy score: 100%



Recall Score: 100%

LIME Visualizations



Next Steps

- LIME learning trends
- Image Localization/Segmentation
- Thresholding

Contact Info

LinkedIn

linkedin.com/in/cooper-thompson

Email Address

cwthompson1@crimson.ua.edu

GitHub

github.com/CooperWThompson