Brain Tumor Detection Web App

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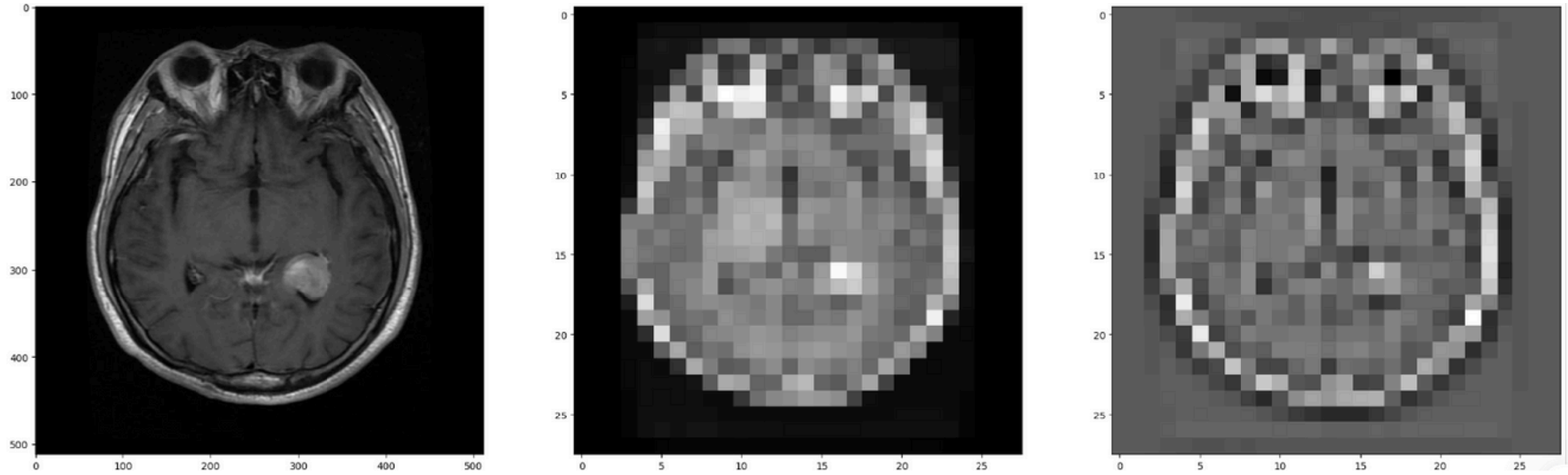
Problem Overview

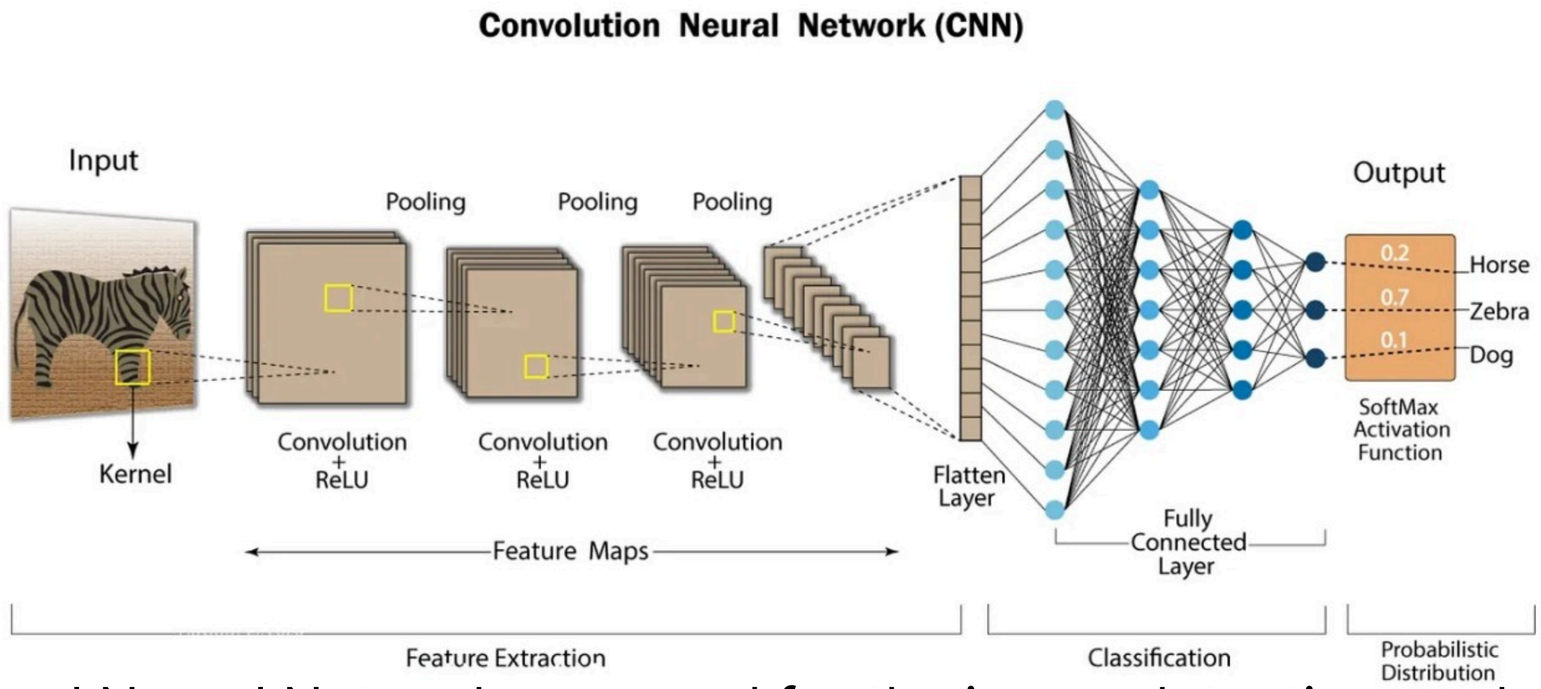
Our healthcare division needs an AI system that can support doctors in detecting tumors from medical images. Manual image review is time-consuming and subject to human error. The ML Team is asked to build a predictive model that can automatically classify whether an image indicates the presence of a tumor, helping radiologists speed up diagnosis and reduce oversight risks.

Data Preparation



The image processing was made using openCv. The image is converted to grey then it was resized to (28,28). Contrast and Sharpness was added to the image. The image was also normalized to insert it into the model.

Modeling



Convolutional Neural Network was used for the image detection model using pytorch library.

Results

	precision	recall	f1-score	support
0.0	1.00	0.99	0.99	1321
1.0	0.98	1.00	0.99	1339
2.0	1.00	1.00	1.00	1595
3.0	1.00	0.99	1.00	1457
accuracy			0.99	5712
macro avg	0.99	0.99	0.99	5712
weighted avg	1.00	0.99	0.99	5712

Contribution

Kareem Abdellatif:
All of the project