

# **"Klasyfikacja guzów mózgu w obrazach 3D wykonanych z wykorzystaniem techniki rezonansu magnetycznego (MRI)".**

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# Cel projektu i baza danych

Celem projektu jest przyporządkowanie obrazów do odpowiadającym im czterem kategoriom: glejaków, oponiaków, gruczolaków, oraz przypadków bez nowotworu.

Baza pochodzi z platformy Github: <https://github.com/sartaibhuvaji/brain-tumor-classification-dataset>

Publikacja, na której bazuję:

Article | [Open Access](#) | [Published: 27 January 2022](#)

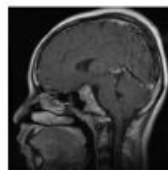
## Classification of brain tumours in MR images using deep spatiospatial models

[Soumick Chatterjee](#) , [Faraz Ahmed Nizamani](#), [Andreas Nürnberger](#) & [Oliver Speck](#)

[Scientific Reports](#) **12**, Article number: 1505 (2022) | [Cite this article](#)

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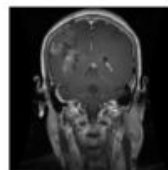
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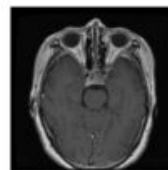
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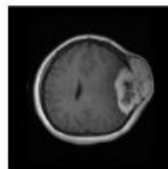
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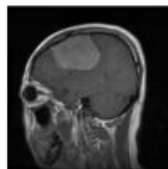
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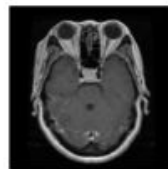
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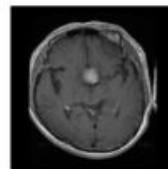
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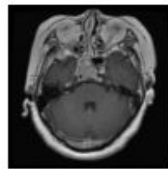
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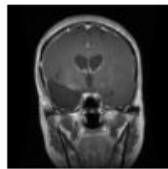
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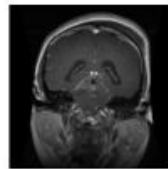
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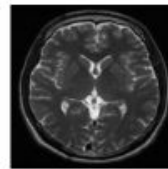
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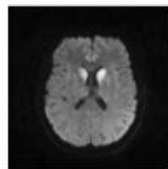
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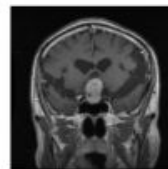
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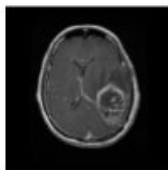
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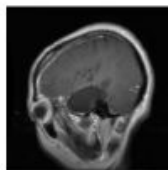
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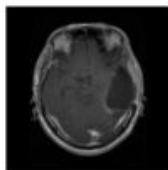
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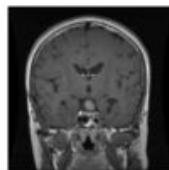
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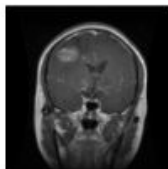
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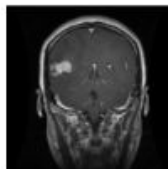
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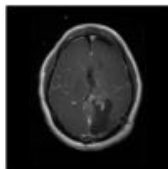
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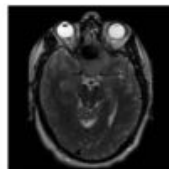
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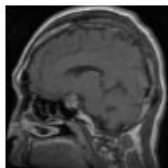
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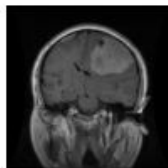
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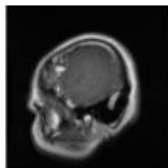
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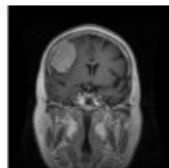
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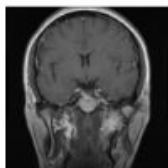
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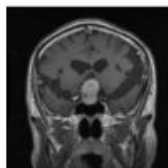
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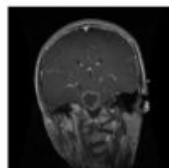
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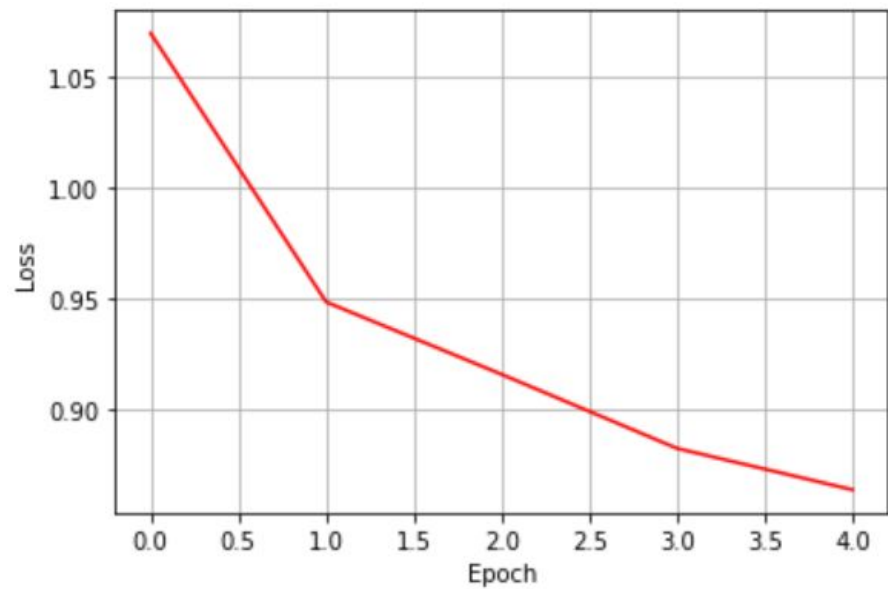


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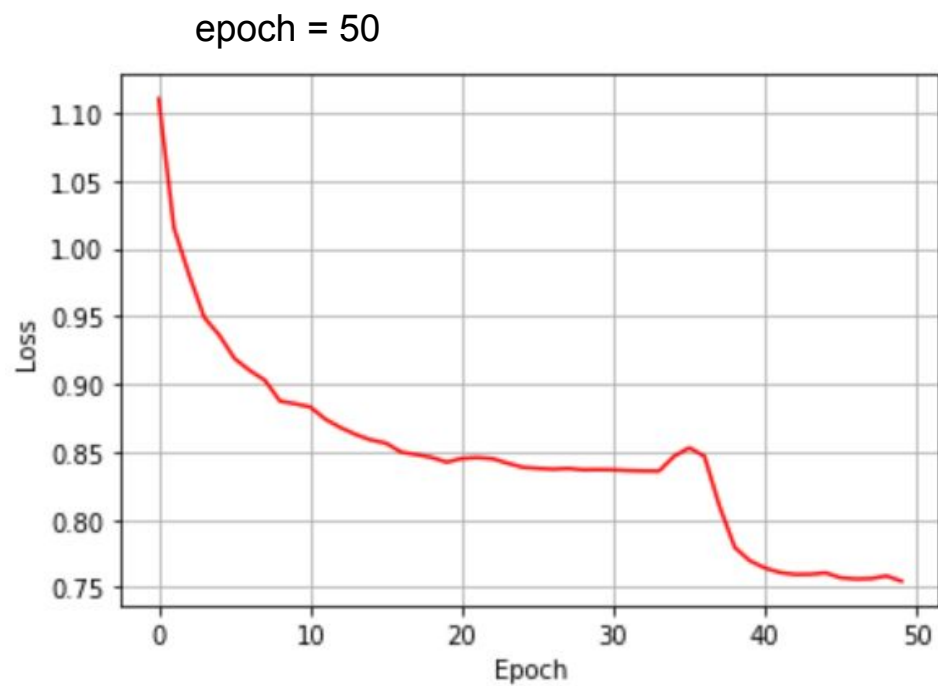


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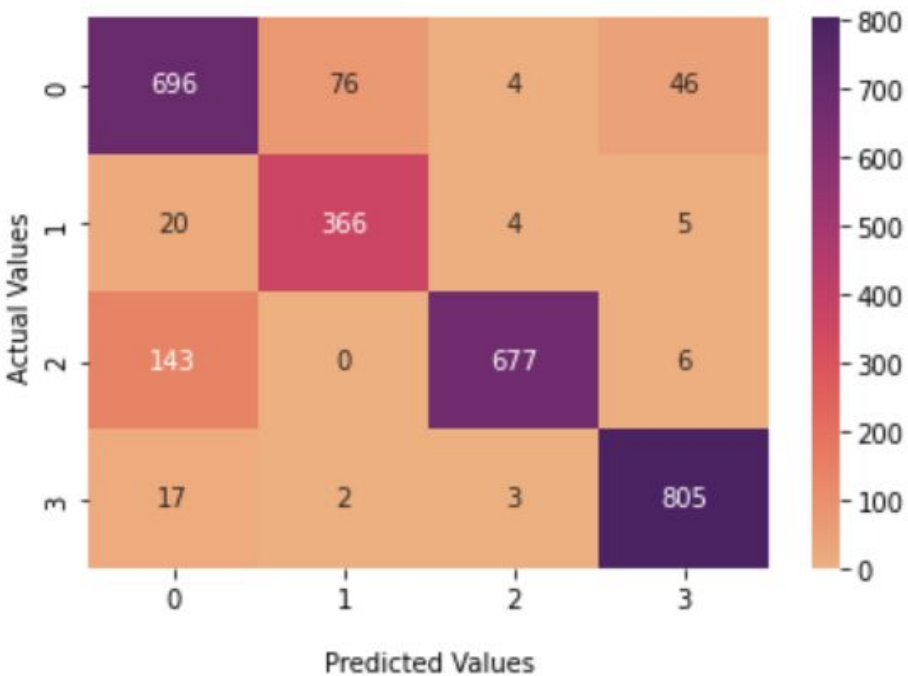




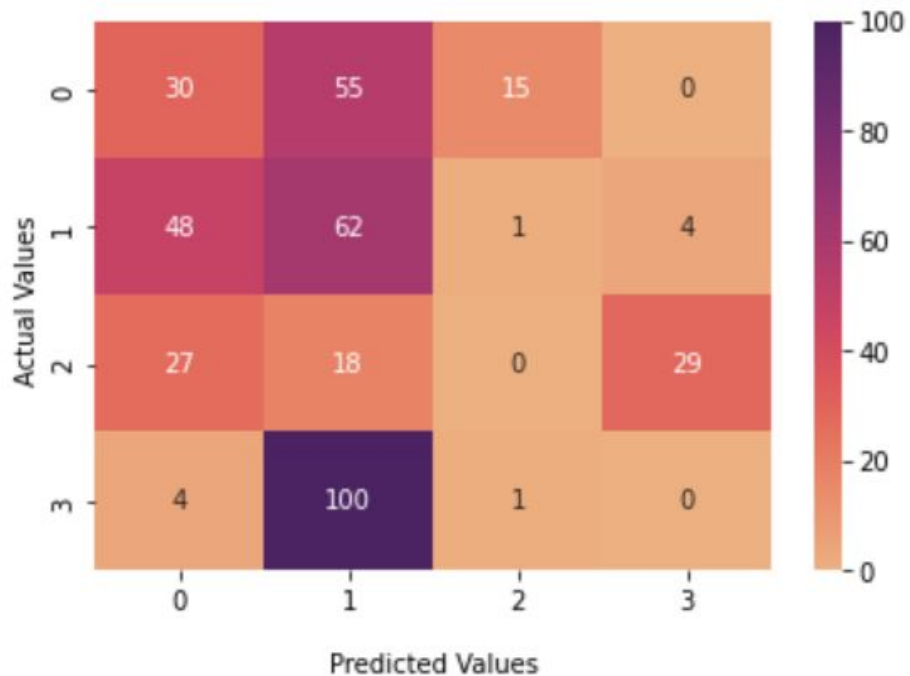
epoch = 5



Confusion Matrix



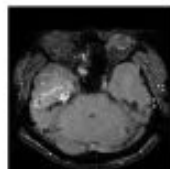
Confusion Matrix



Pre: 1, Trg: 0



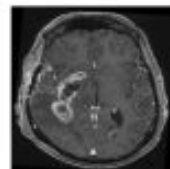
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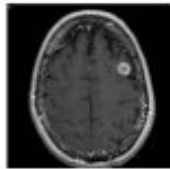
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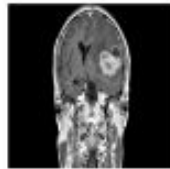
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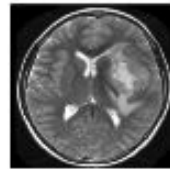
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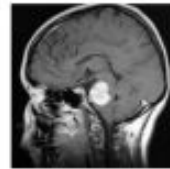
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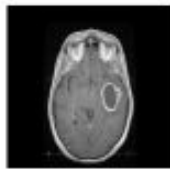
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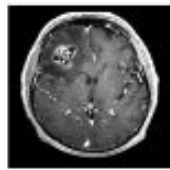
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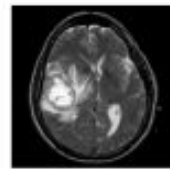
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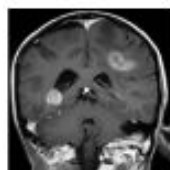
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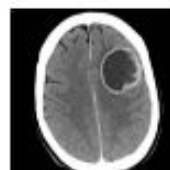
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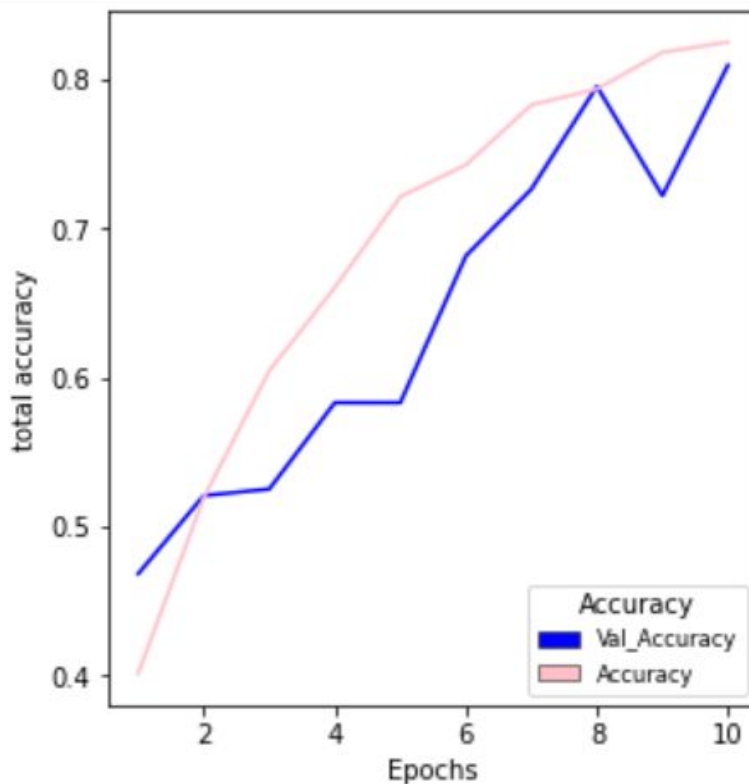
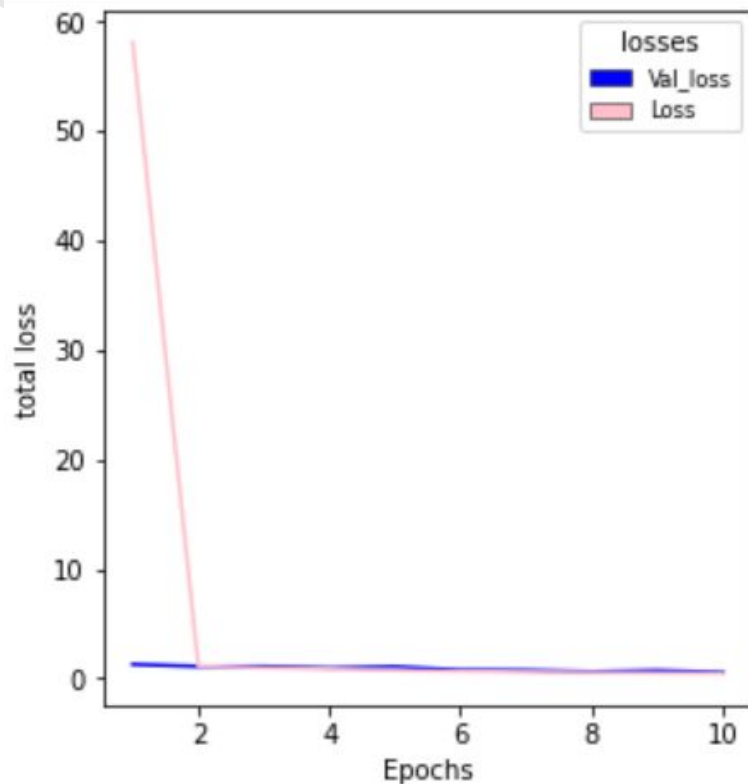
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Pre: 1, Trg: 0



# Czy wyniki są miarodajne?



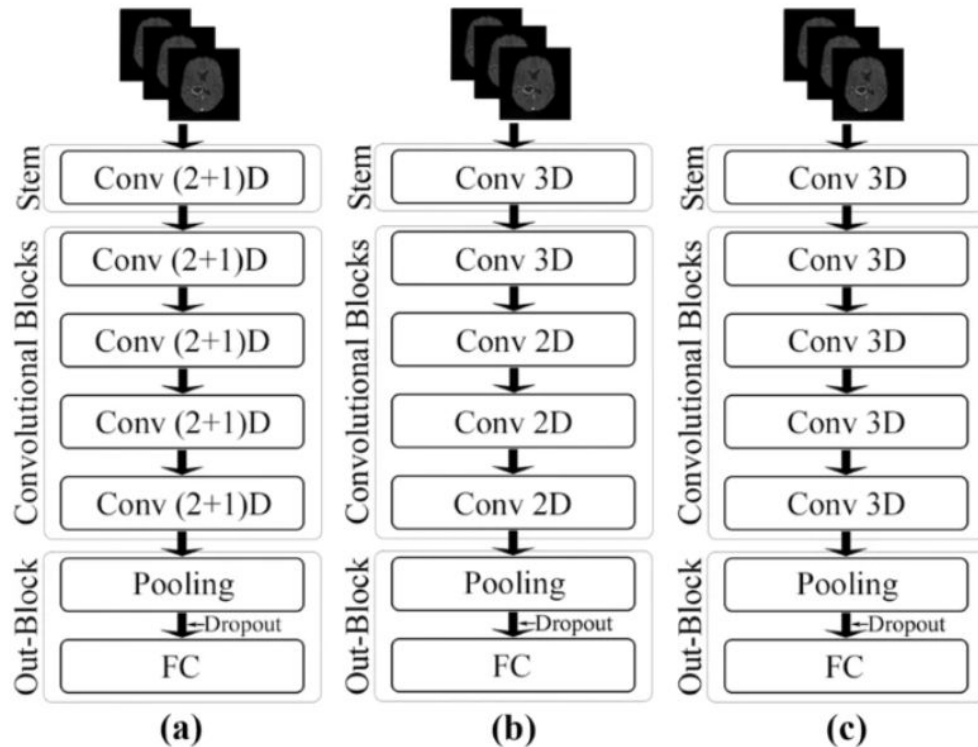


	precision	recall	f1-score	support
No Tumor	0.80	0.83	0.81	155
Glioma Tumor	0.83	0.71	0.77	253
Meningioma tumor	0.77	0.79	0.78	303
Pituitary tumor	0.86	0.94	0.90	269
accuracy			0.82	980
macro avg	0.82	0.82	0.81	980
weighted avg	0.82	0.82	0.81	980

# Co jeszcze można zrobić?

- ResNet
- U-Net

Figure 3



Schematic representations of the network architectures. (a) ResNet (2+1)D, (b) ResNet Mixed Convolution, and (c) ResNet 3D.