

Detection of lesions in the optic nerve with magnetic resonance imaging using a 3D convolutional neural network

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Key idea

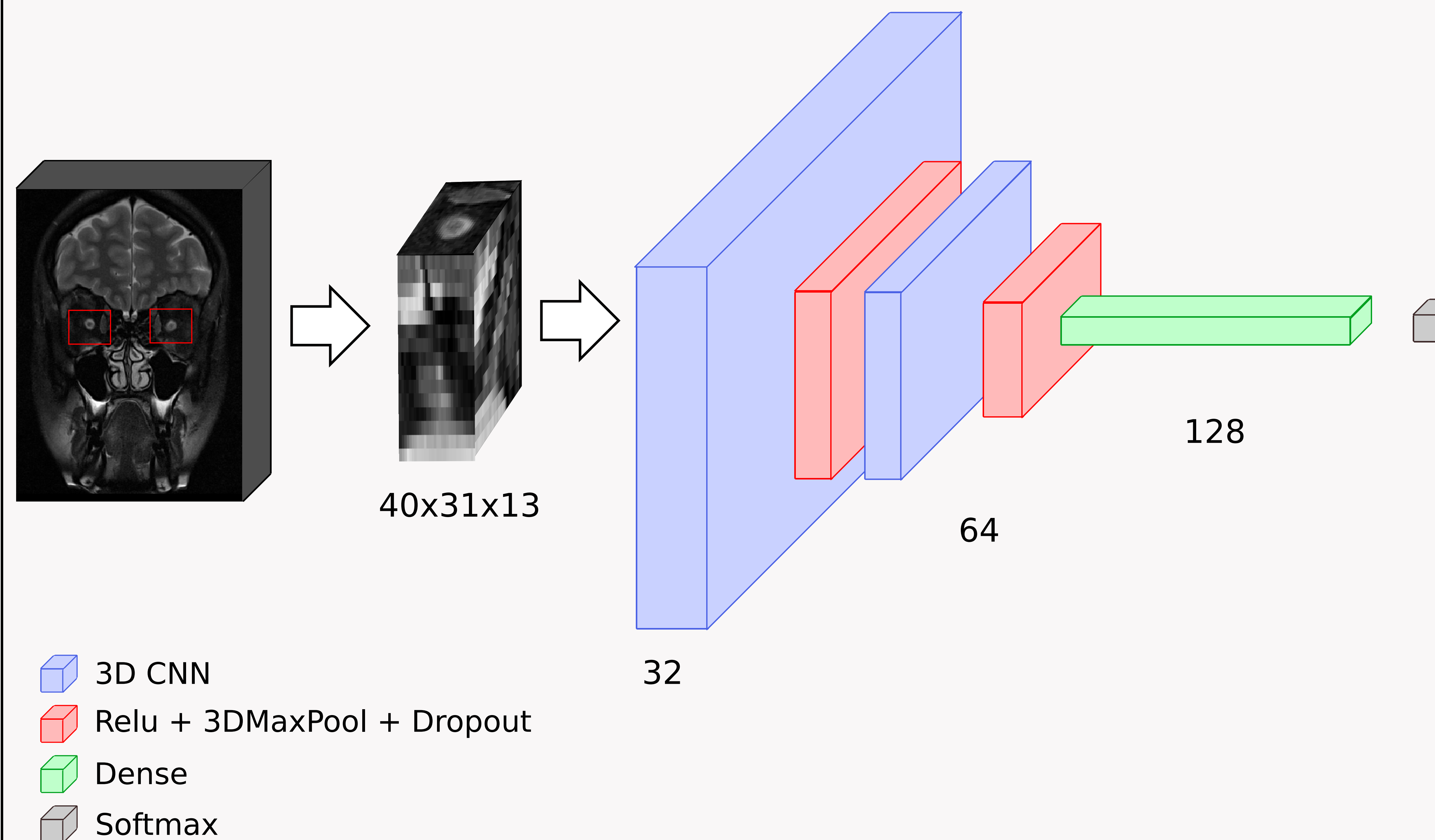
· Optical neuritis can be the first manifestation of multiple sclerosis, detection can be relevant for diagnosis.

Objective: Develop automated method to detect lesions on MRI.

· Evaluate model on two cohorts:

- D1 (Train, N=107)
- D2 (Test, N=62)

Classification model



Results

	B. Acc	Sens.	Spec.
D1	68.11%	67.97%	68.26%
D2	64.11%	74.28%	53.39%

- **AUC = 0.7** for test dataset
- Results generalise on unseen data.

· **Saliency maps** show model identifies optic nerve.

