CNN Results: 20-35 Crossings

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November 7, 2025

The 88M-parameter CNN was fine-tuned on $\mathcal{D}_{\text{train}}$, validated on $\mathcal{D}_{\text{val}}$, and tested on $\mathcal{D}_{\text{test}}$, where:

$$|\mathcal{D}_{\text{train}}| = 448{,}000 \text{ diagrams},$$

$$|\mathcal{D}_{\text{val}}| = |\mathcal{D}_{\text{test}}| = 56{,}000 \text{ diagrams},$$

$$\mathcal{D} = \mathcal{D}_{\text{train}} \cup \mathcal{D}_{\text{val}} \cup \mathcal{D}_{\text{test}}.$$

Each split in $\mathcal{D}$ contained an equal number of knots with $n \in N$ crossings where $N = \{20, 21, \ldots, 35\}$. Each split contained an equal number of non-trivial knots and unknots for all values of n.

Results

TP: True Unknots Predicted as Unknots

FN: True Unknots Predicted as Knots

TN: True Knots Predicted as Knots

FP: True Knots Predicted as Unknots