Supplementary Material

1 Bernoulli Posterior Distribution

$$\theta_{\text{post}}(z_t, z_0) = \frac{[(1-\beta_t)z_t + 0.5\beta_t] \odot [\bar{\alpha}_t z_0 + 0.5 b_t]}{\mathbf{Z}}, \tag{1}$$

where

$$\begin{aligned} \mathbf{Z} &= [(1-\beta_t)z_t + 0.5\beta_t] \odot [\bar{\alpha}_t z_0 + 0.5 b_t] \\ &\quad + [(1-\beta_t)(1-z_t) + 0.5\beta_t] \odot [\bar{\alpha}_t (1 - \epsilon_\theta(z_t, t)) + 0.5 b_t], \\ b_t &= (1-\beta_t) b_{t-1} + 0.5\beta_t, \quad \text{and} \quad b_1 = 0.5\beta_1. \end{aligned} \tag{2}$$

2 Further Qualitative Anomaly Detection Results

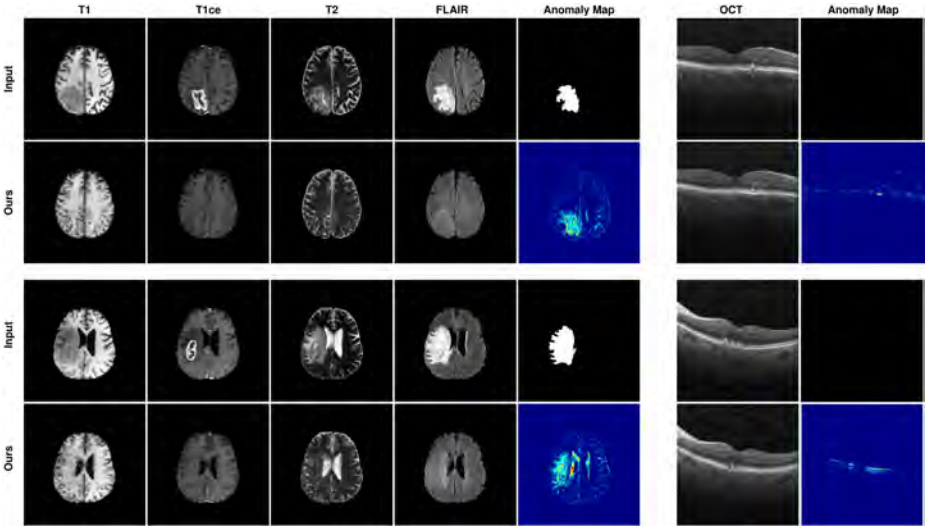

Fig. 1: We provide more qualitative results of our method for two subjects of the BRATS2020 test set, as well as two subjects of the OCT2017 test set. Here, we choose $P = 0.5$ and $L = 300$.

3 Qualitative Hyperparameter Analysis

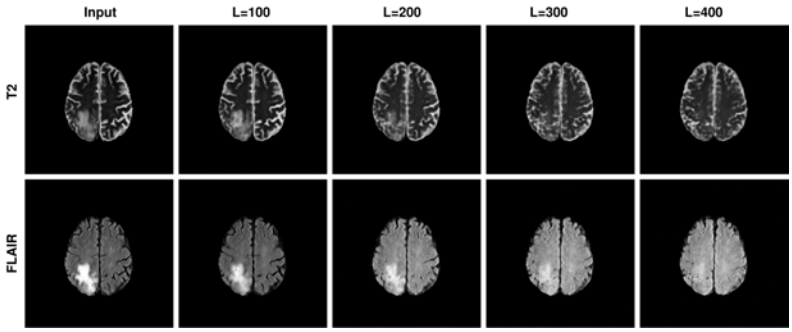

Fig. 2: With a fixed probability threshold of $P = 0.5$, we demonstrate the impact of increasing noise levels L on T2-weighted as well as FLAIR MR images.

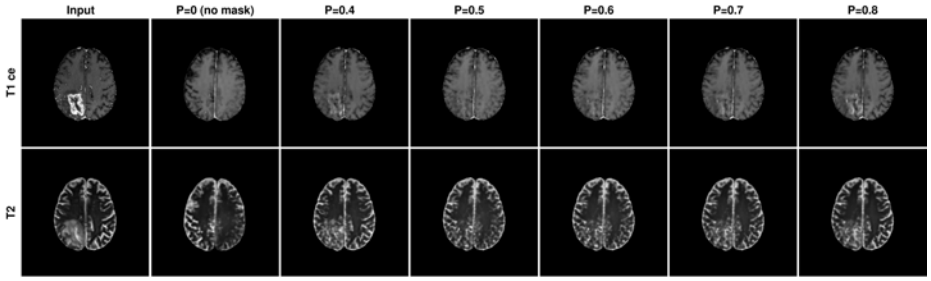

Fig. 3: Inference is performed for increasing probability thresholds P for T2-weighted and contrast enhanced T1-weighted MR images of the BRATS2020 test set, with a fixed $L = 300$.

4 Inference on a Healthy Sample

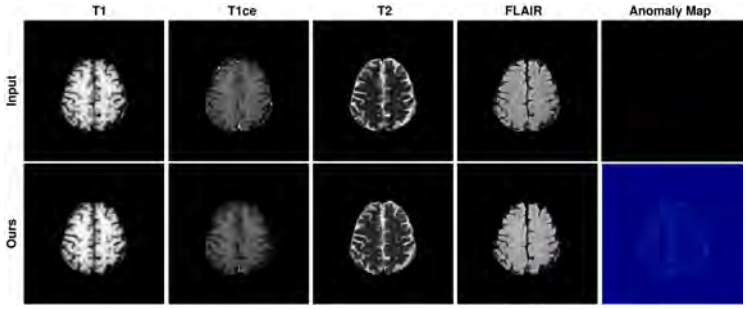

Fig. 4: We run inference on a healthy slice of the BRATS2020 test set. The reconstruction is close to the input, resulting in an anomaly map close to zero.