

Supplementary Material for the paper
**MARVEL: MR Fingerprinting with Additional
micRoVascular Estimates using bidirectional LSTMs**

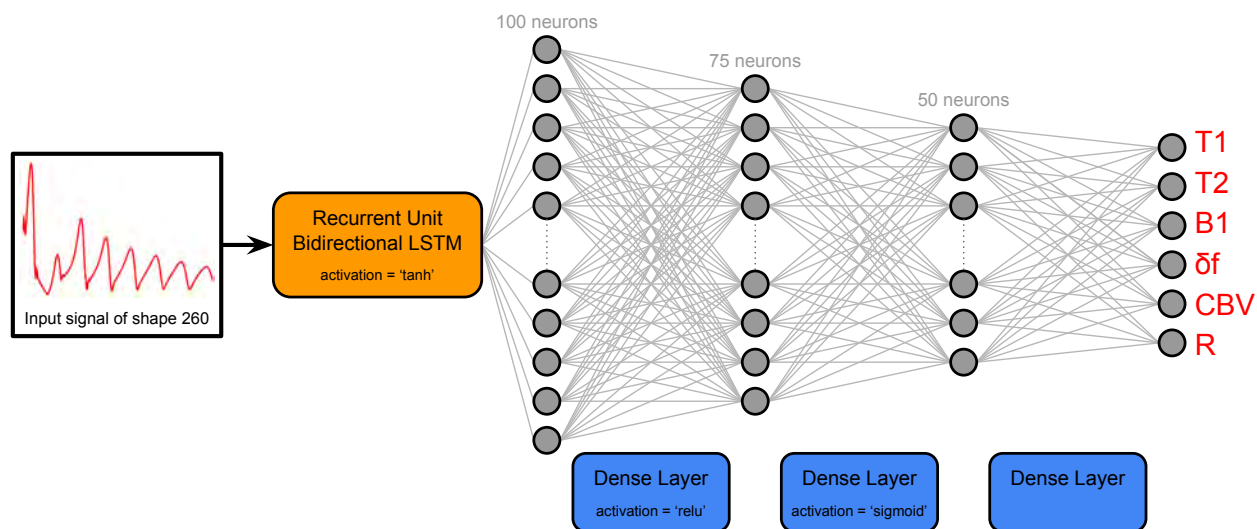


Figure 1: BiLSTM network structure. For training, we used the Adam optimizer with the MSE loss and an initial learning rate of 10^{-3} , reduced by a factor of 0.8 every 5 epochs.

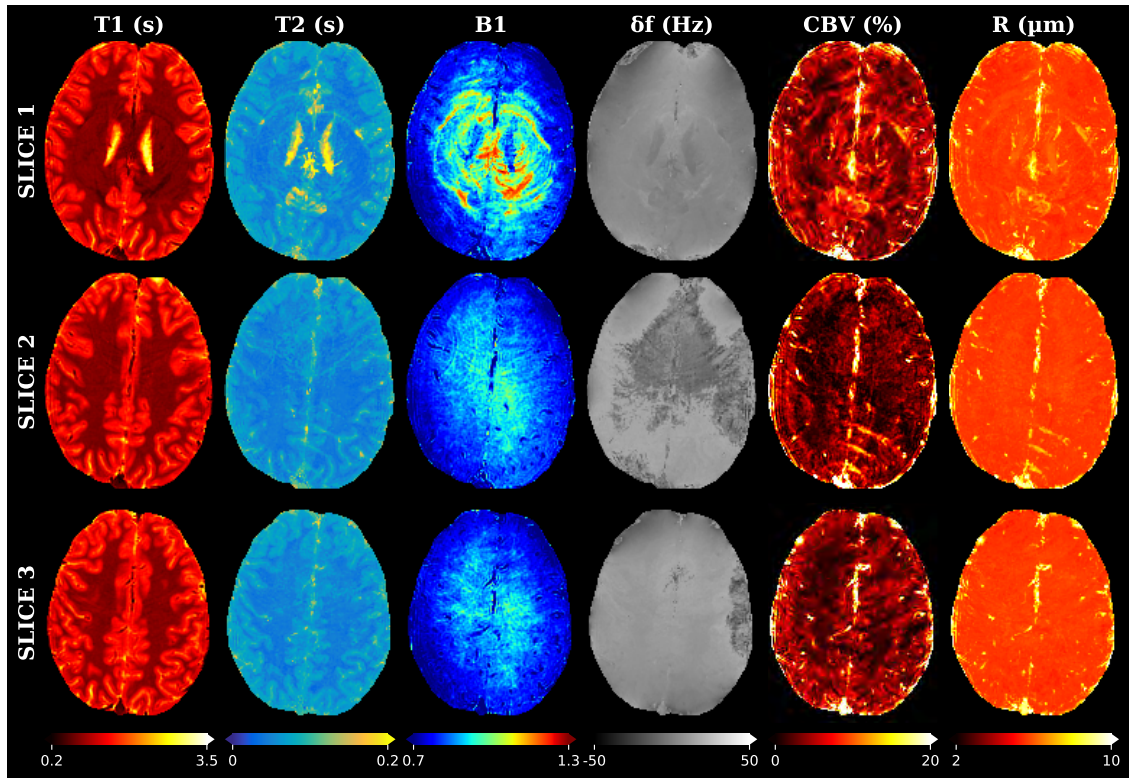


Figure 2: BiLSTM reconstructions of the spiral acquisition for subject 2. Computed in 3.5 s.

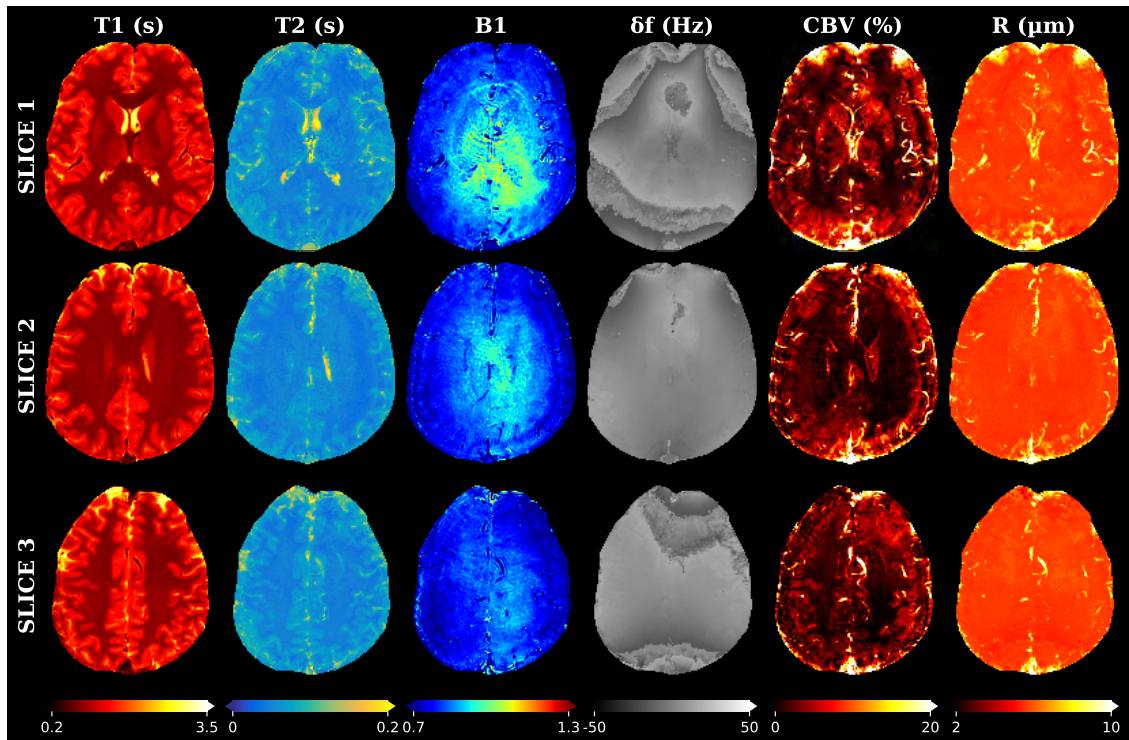


Figure 3: BiLSTM reconstructions of the spiral acquisition for subject 3. Computed in 3.5 s.