Zero-shot Low-field MRI Enhancement via Denoising Diffusion Driven Neural Representation
- Supplementary Material -

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1 Data Acquisition Protocol

Table 1. The MRI scanning protocol of the real clinical low-field MRI and reference high-field MRI used in the paper.

	low-field MRI		high-field MRI
Magnetic Field Strength	0.23 T	0.23 T	3.0 T
Squence	FLAIR	FLAIR	3D T1 FSP GRE
Resolution (mm)	1	3	0.5
Slice thickness (mm)	6	3	1
TR (ms)	1700	1500	6.99
TE (ms)	25	35	3
Echo Train Length	8	8	160
Bandwidth (Hz/pixel)	98	312	250
Flip Angle (°)	90	90	10

2 Parameter Settings in the Proposed Method

2.1 Details of the INR framework

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* Equal contribution.

$$\mathbf{p} = (x, y) \rightarrow \boxed{\mathcal{H}_\phi} \rightarrow \mathbf{V} \rightarrow [\text{MLP}] \rightarrow I$$

coordinates   Hash Encoding   Feature Vector   MLP   Intensity
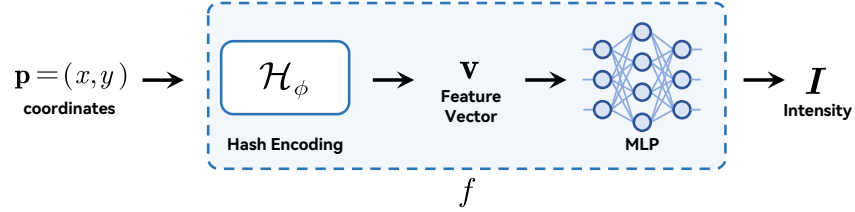
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Fig. 1. The architecture of the neural network used for parameterizing the implicit function f, which consists of the hash encoding and a three layers MLP.

Table 2. Details of the encoding strategy of INR framework in this paper.

Parameter	Value
Encoding strategy	Hash encoding
Number of levels	12
Max. entries per level (hash table size)	2^{23}
Number of feature dimensions per entry	2
Coarsest resolution	2

Table 3. Details of the MLP network of INR framework in this paper.

Parameter	Value
Activation function of hidden layer	ReLU
Activation function of output layer	Linear
Number of hidden layer	3
Number of neurons per layer	128