

We present an imaging-free approach that reconstructs spatial barcode locations using molecular diffusion and dimensionality reduction. Validated against ground truth imaging, our method...

We present the MMR-Mamba framework, which effectively integrates information through the TCM module in the spatial domain and the SFF module in the frequency domain, along with ...

ized our understanding of the complex three-dimensional cellular landscapes of tissues. However, the accuracy of spatial expression profiles is often compromised by missing or distorted experimental ...

Specifically, we devise a dynamic-encoded module to extract micro-expression features for global facial motion, allowing it to leverage prior knowledge from abundant macro-expression data to mitigate the ...

In this study, we propose a spatial-frequency multi-scale transformer (SFM-Transformer) to address this limitation by restoring both the spatial and frequency domain features of the native image.

In gene reconstruction, we employ a graph decoder including a structure module ($d/72$, gene_dimension). We run all the experiments using a Ubuntu server and a single A100 GPU with 40 ...

Thus, in this study, we proposed a spatial weight matrix (SWM) with a dimensionality reduction for image reconstruction. The three-layer SWM contains the invariable information of the system, which ...

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We first demonstrated that our approach allows for spatial expression patterns to be reconstructed at the whole-tissue level using the mouse cerebellum. We further validated the ability ...

In order to solve the existing problems, we propose an improved vision state-space model for the spectral reconstruction of RGB images. This model is a lightweight architecture with ...

SpaHDmap combines the trained U-Net-SpaHDmap model with two modules, the feature fusion module (encoder) and the data reconstruction module (decoder), to learn high-resolution ...

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