Conditional Sampling
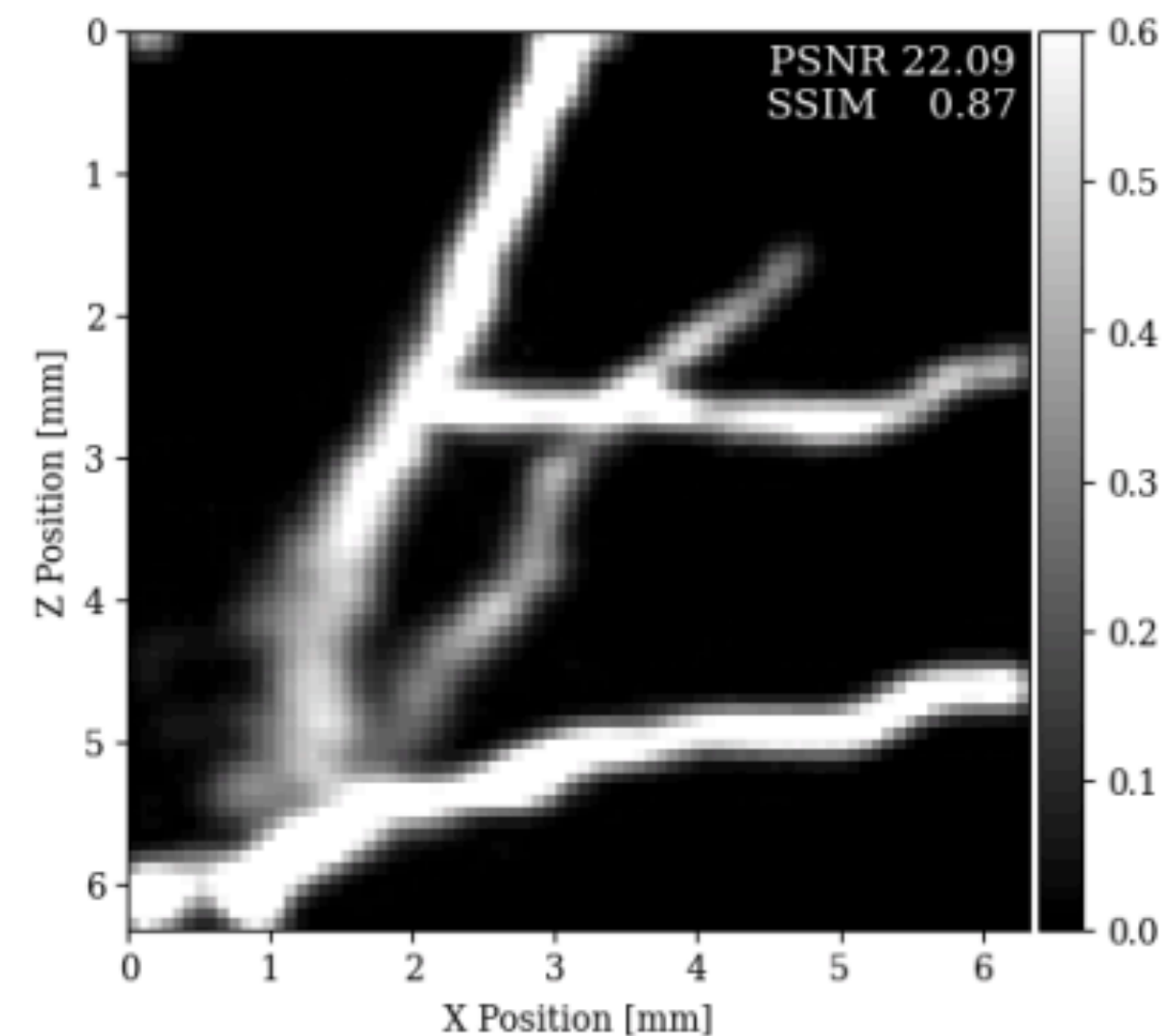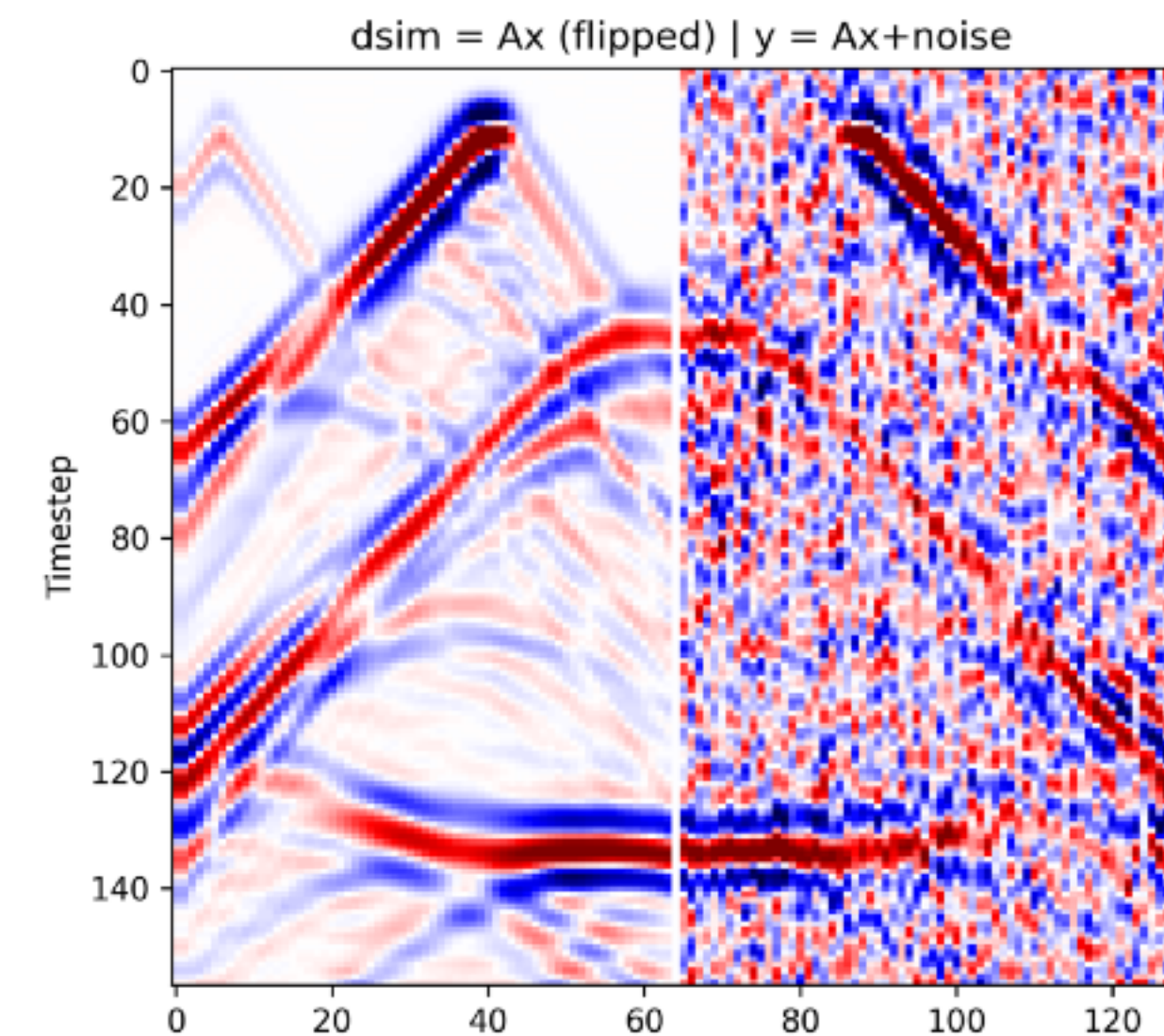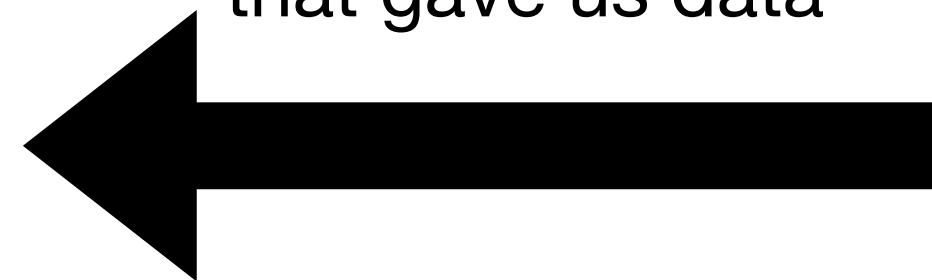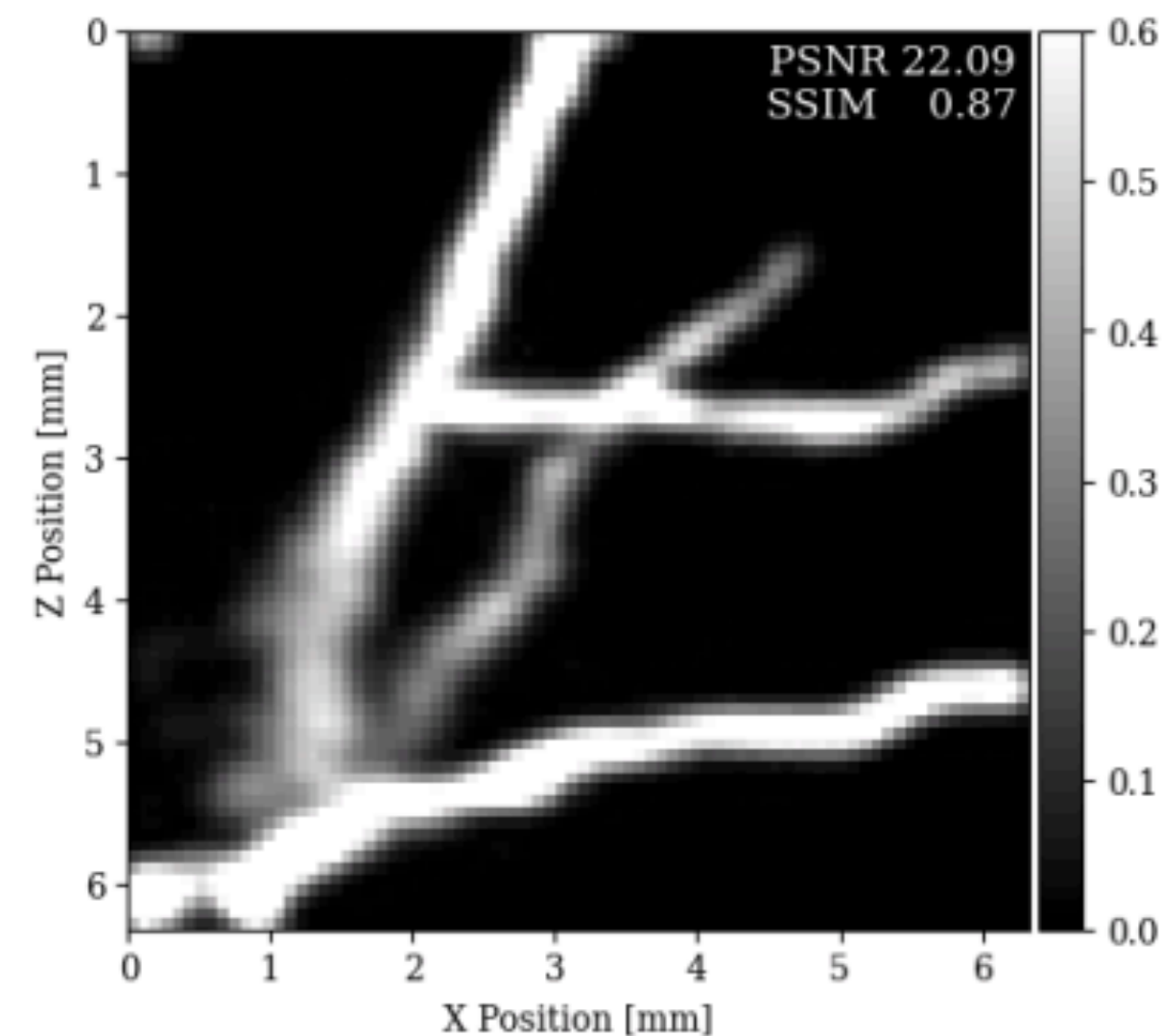
Goal: learn to sample from the conditional distribution: $p(\mathbf{x}|\mathbf{y})$

This describes a general inverse problem:

"given data $\mathbf{y}$, which image $\mathbf{x}$ corresponds to it?"

Invert Forward process that gave us data

Kovachki, Nikola, et al. "Conditional sampling with monotone GANs." arXiv preprint arXiv:2006.06755 (2020).

Conditional Sampling

Goal: learn to sample from the conditional distribution: $\quad p(\mathbf{x}\,|\,\mathbf{y})$

This describes a general inverse problem:

"given data $\mathbf{y}$, which image $\mathbf{x}$ corresponds to it?"

We learn the whole distribution so we answer a more powerful question:

"given data $\mathbf{y}$, ***which set of images*** $\mathbf{x} \sim p(\mathbf{x}\,|\,\mathbf{y})$ corresponds to it?"

Invert Forward process
that gave us data

dsim = Ax (flipped) | y = Ax+noise

45   Kovachki, Nikola, et al. "Conditional sampling with monotone GANs." arXiv preprint arXiv:2006.06755 (2020).