Adaptive Compressive Sampling

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How is information communicated across fiber tracts in the brain?

ACS scheme:

a) Send (randomly) subsampled patterns through axons

b) Recover full patterns using representational learning

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ACS Overview

Signal basis

Sparse causes

Original signal

Compression matrix

Compressed signal

Recon. matrix

Learned basis

Sparse recon.
ACS Learning Results

Reconstructions comparable to CS

Learned receptive fields resemble those of simple cells