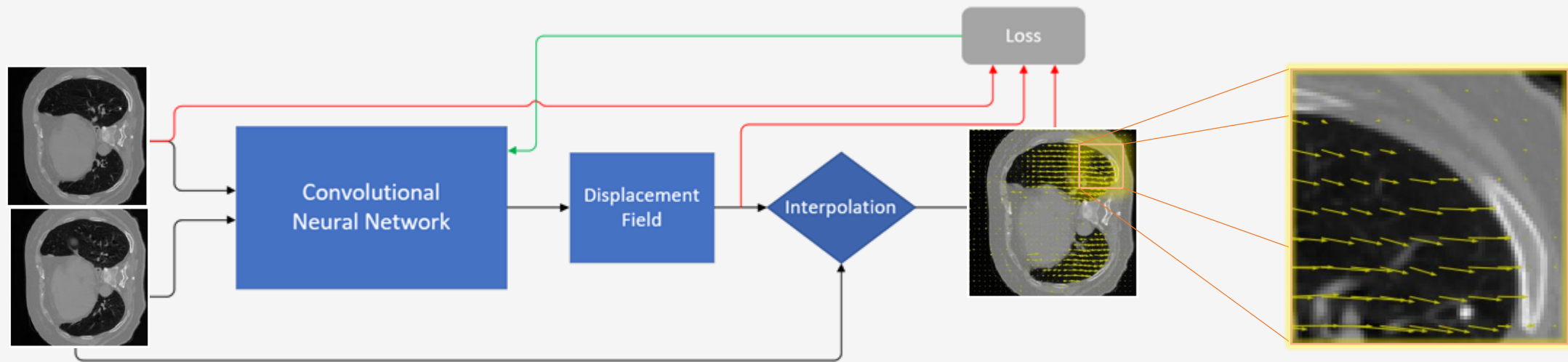


Unsupervised Learning Approach to Discontinuity Preserving Image Registration

Eric Ng, Mehran Ebrahimi



- Method

- Follow a learning-based approach by constructing a loss function consisting of terms that place more focus on locality.
- Model is validated using 4DCT data.

- Results

- Model is able to produce results that are competitive with classical methods, while offering, on average, over 100 times reduced registration time.

- Other findings

- Nonlinear regularizers that model motion discontinuities sharply raises numerical implementation for data-driven methods like deep learning.
- The increase in numerical sophistication may be the limiting factor preventing discontinuity-preserving models from being readily applied to learning-based methods.

