MarioNette: Self-Supervised Sprite Learning
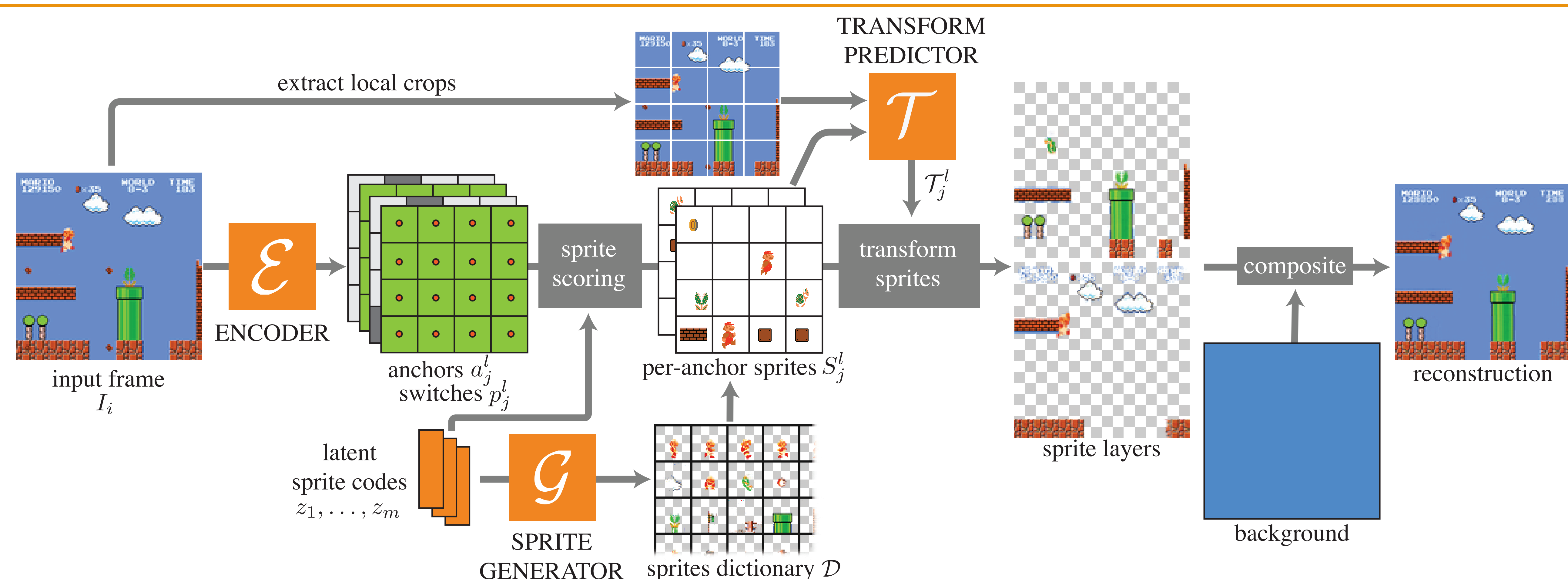
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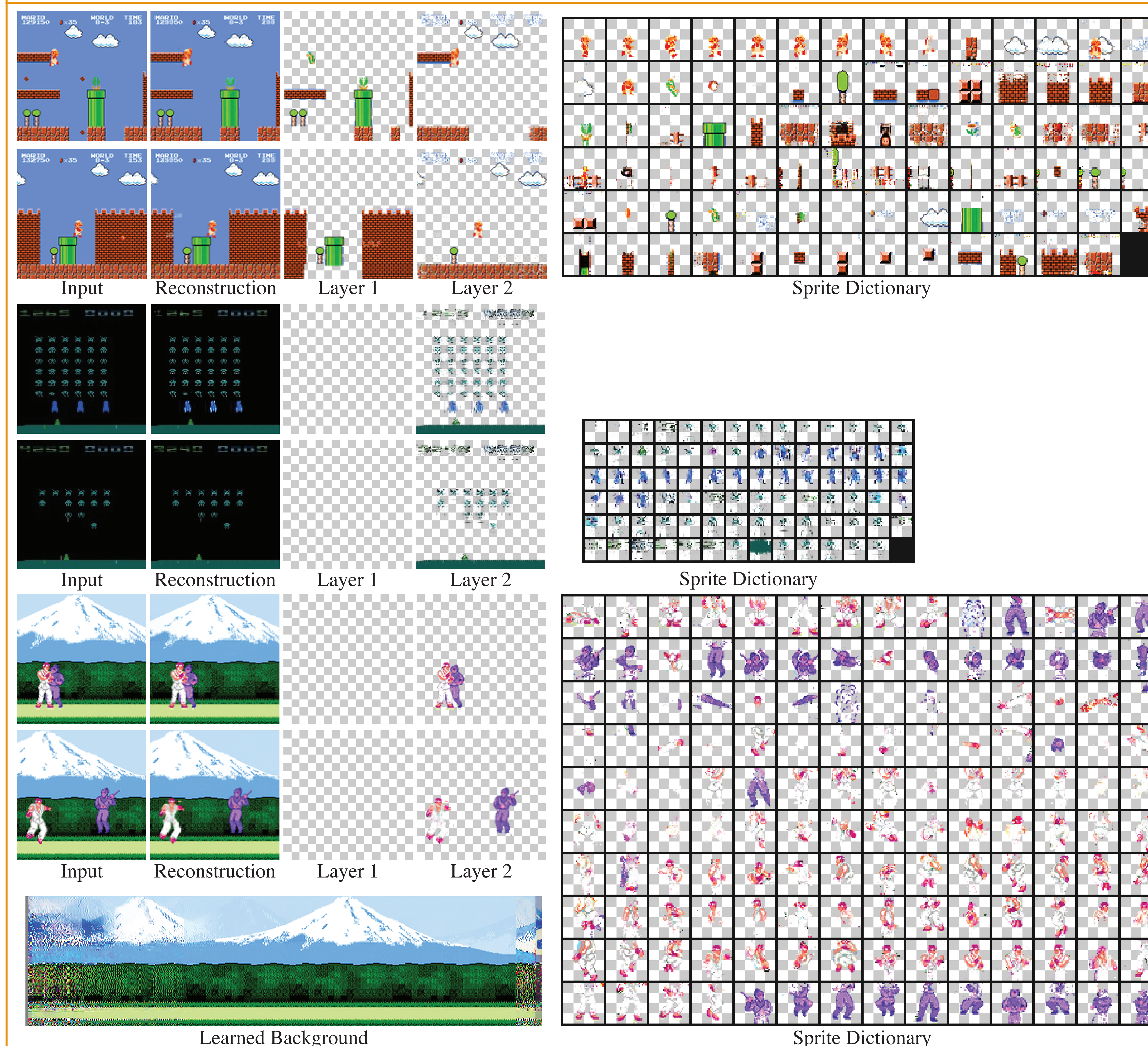
SUMMARY

We propose a self-supervised deep learning approach that decomposes sprite-based video animations into a disentangled representation of recurring graphic elements. By jointly learning a dictionary of patches and a model that places them onto a canvas, we deconstruct sprite-based content into a consistent and explicit representation that can be easily used in downstream tasks, like editing or analysis.
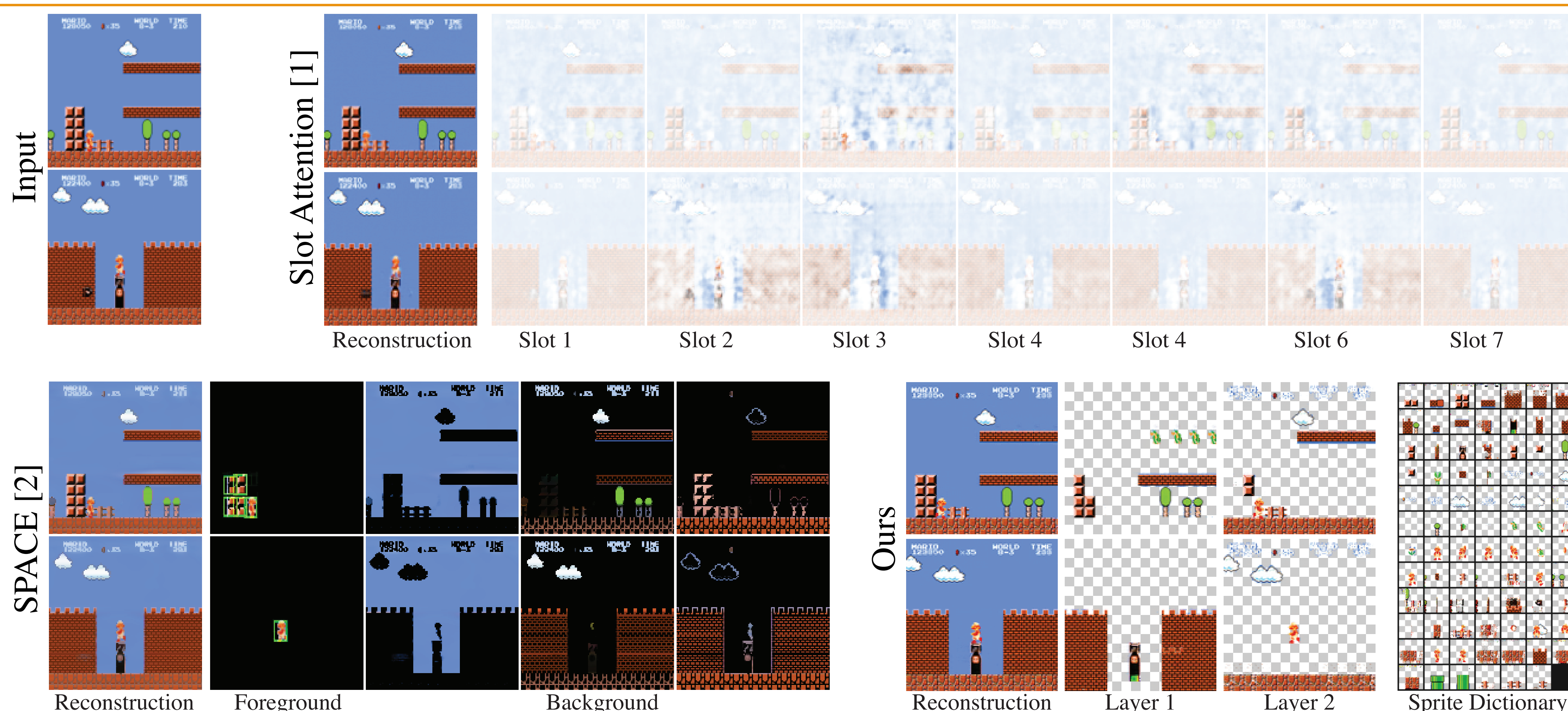
PIPELINE OVERVIEW

COMPARISONS

RESULTS: SPRITE-BASED GAME DECONSTRUCTION

RESULTS: UNSUPERVISED NA...

[1] F. Locatello, D. Dirk Weissenborn, T. Unterthiner, A. Mahendran, G. Heigold, J. Uszkoreit, and A. Dosovitskiy. "Object-Centric Learning with Slot Attention." arXiv 2020.
[2] Z. Lin, Y. Wu, V. Peri, W. Sun, G. Singh, F. Deng, J. Jiang, and S. Ahn. "SPACE: Unsupervised Object-Oriented Scene Representation via Spatial Attention and Decomposition." ICLR 2020.

PROJECT WEBPAGE
https://people.csail.mit.edu/smirnov/marionette/