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Transforming a Standard video into Slow Motion using AI

There are many memorable moments in your life that you might want to record with a camera in slow-motion because they are hard to see clearly with your eyes: the first time a baby walks, a difficult skateboard trick, a dog catching a ball are some examples. While it is possible to take 240-frame-per-second videos with even a phone nowadays, recording everything at high frame rates is impractical, as it requires large memories and is power-intensive for mobile devices. Moreover, we might want to convert our old standard videos to a slow-motion afterwards.

The advantage of this new research is users can slow down their recordings after taking them which looks **less blurry and more fluid** than any other software that claims to do this. The method can take every day videos of life's most precious moments and slow them down to look like your favorite cinematic slow-motion scenes, adding suspense, emphasis, and anticipation.

Given two consecutive frames, **video interpolation** aims at generating intermediate frame(s) to form both **spatially and temporally coherent video sequences**. While most of the existing methods focus on single frame interpolation, this Nvidia AI focuses on **end-to-end convolutional neural network** for variable multi-frame video interpolation, where the **motion interpretation and occlusion reasoning** are jointly modelled. Since none of our learned network parameters are time-dependent, our approach is able to produce as many intermediate frames as needed.