

SWAG-V: Explanations for Video using Superpixels Weighted by Average Gradients

Supplementary Material

Thomas Hartley
Cardiff University
hartleytw@cardiff.ac.uk

Kirill Sidorov
Cardiff University
sidorovk@cardiff.ac.uk

Christopher Willis
BAE Systems Applied Intelligence
chris.willis@baesystems.com

David Marshall
Cardiff University
marshallad@cardiff.ac.uk

In this supplemental material we show examples of explanations created using Kinetics 400 and both R(2+1)D and C3D. For all examples we create explanations using Grad-CAM, Grad-CAM++, Saliency-Tubes, EP-3D, and our 3 SWAG-V variants (SWAG-V_I, SWAG-V_{I+G}, and SWAG-V_G). As noted in the main paper, we are only able to produce Saliency-Tube results for the R(2+1)D architecture. The following classes are shown:

- Skiing slalom in Figure 1 (R(2+1)D) and Figure 2 (C3D).
- Bobsledding in Figure 3 (R(2+1)D) and Figure 4 (C3D).
- Bungee jumping in Figure 5 (R(2+1)D) and Figure 6 (C3D).
- Skiing crosscountry in Figure 7 (R(2+1)D) and Figure 8 (C3D).

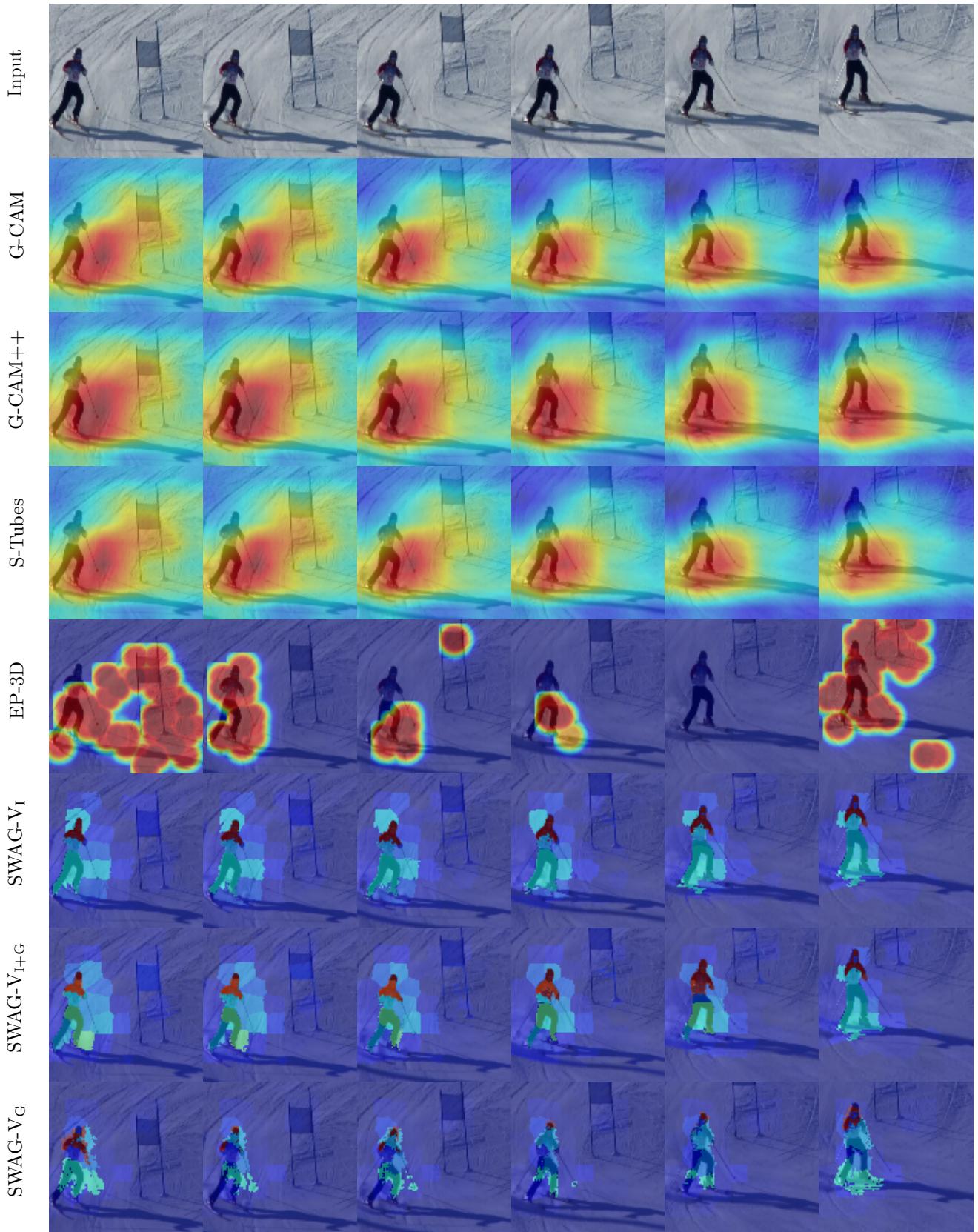


Figure 1: An explanation for the Kinetics 400 class skiing slalom using R(2+1)D.

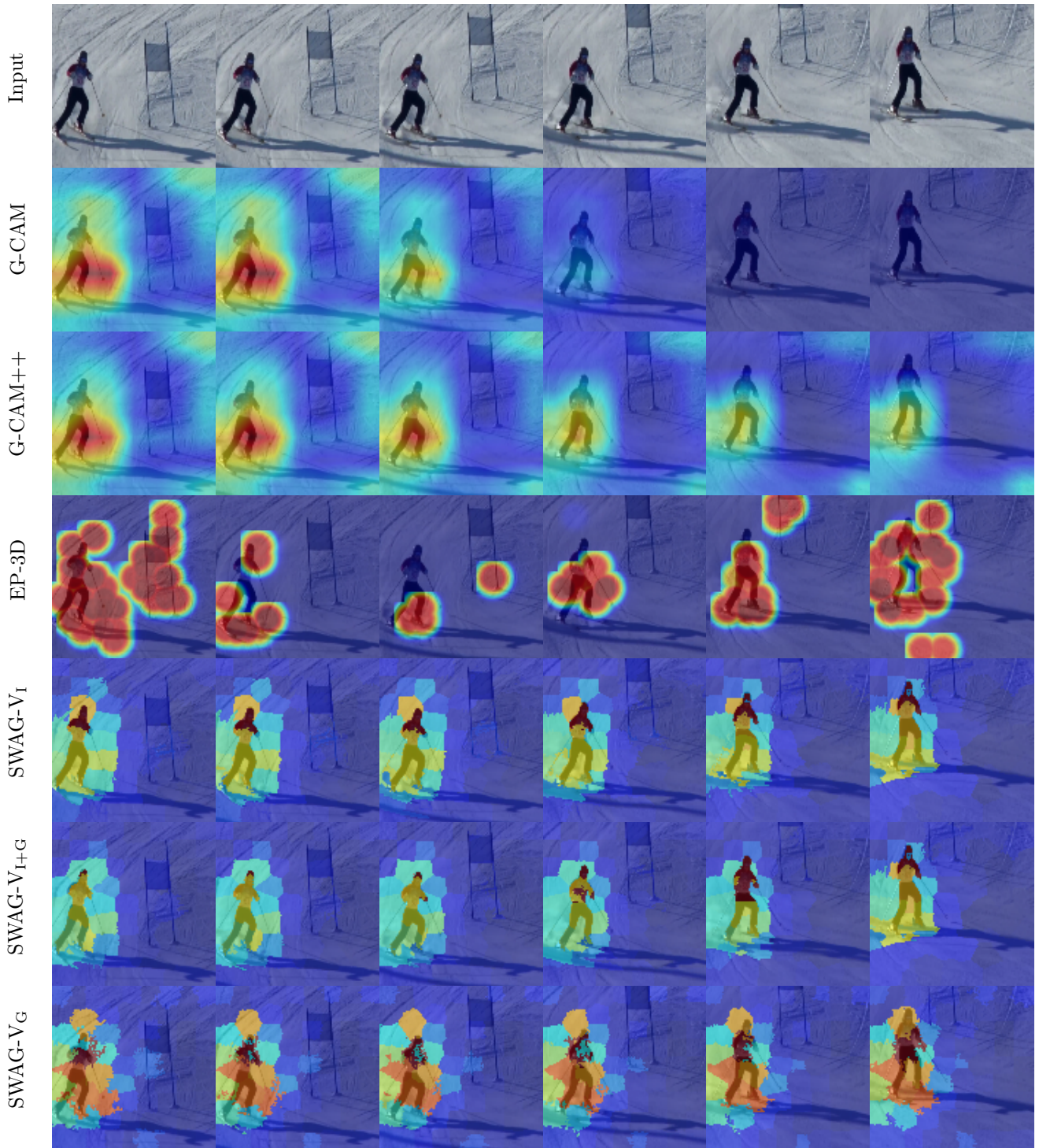


Figure 2: An explanation for the Kinetics 400 class skiing slalom using C3D.

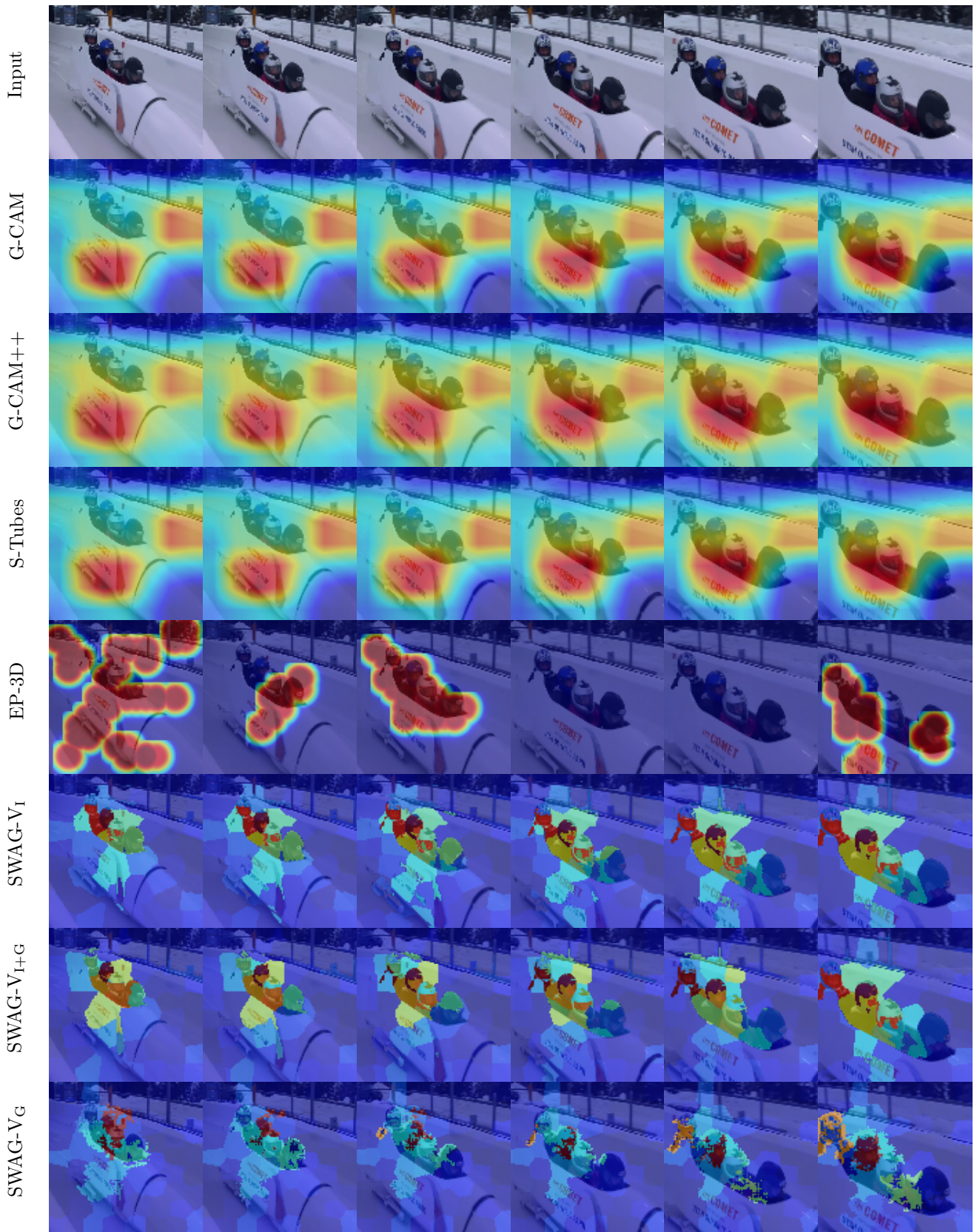


Figure 3: An explanation for the Kinetics 400 class bobsledding using R(2+1)D.

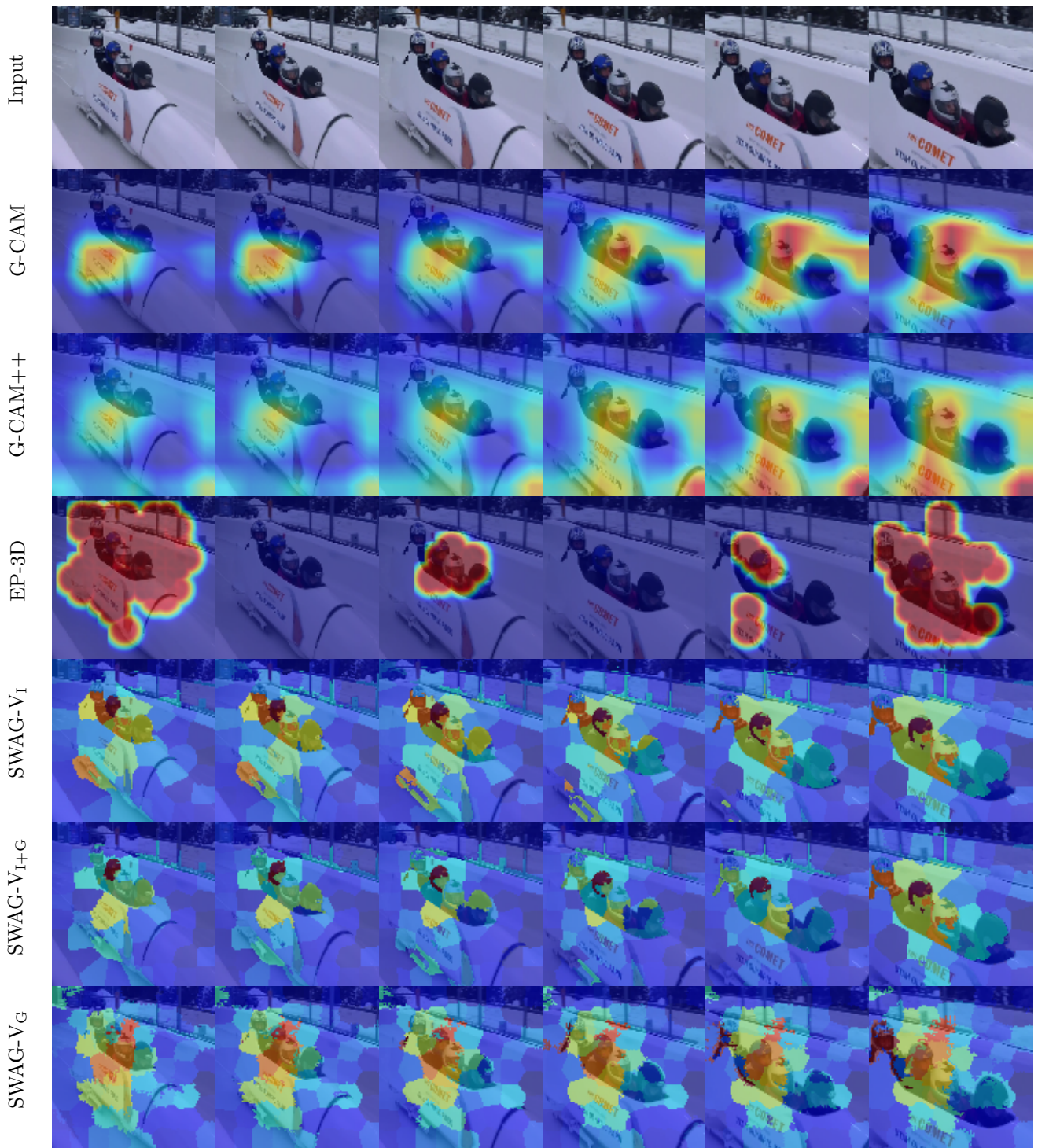


Figure 4: An explanation for the Kinetics 400 class bobsledding using C3D.

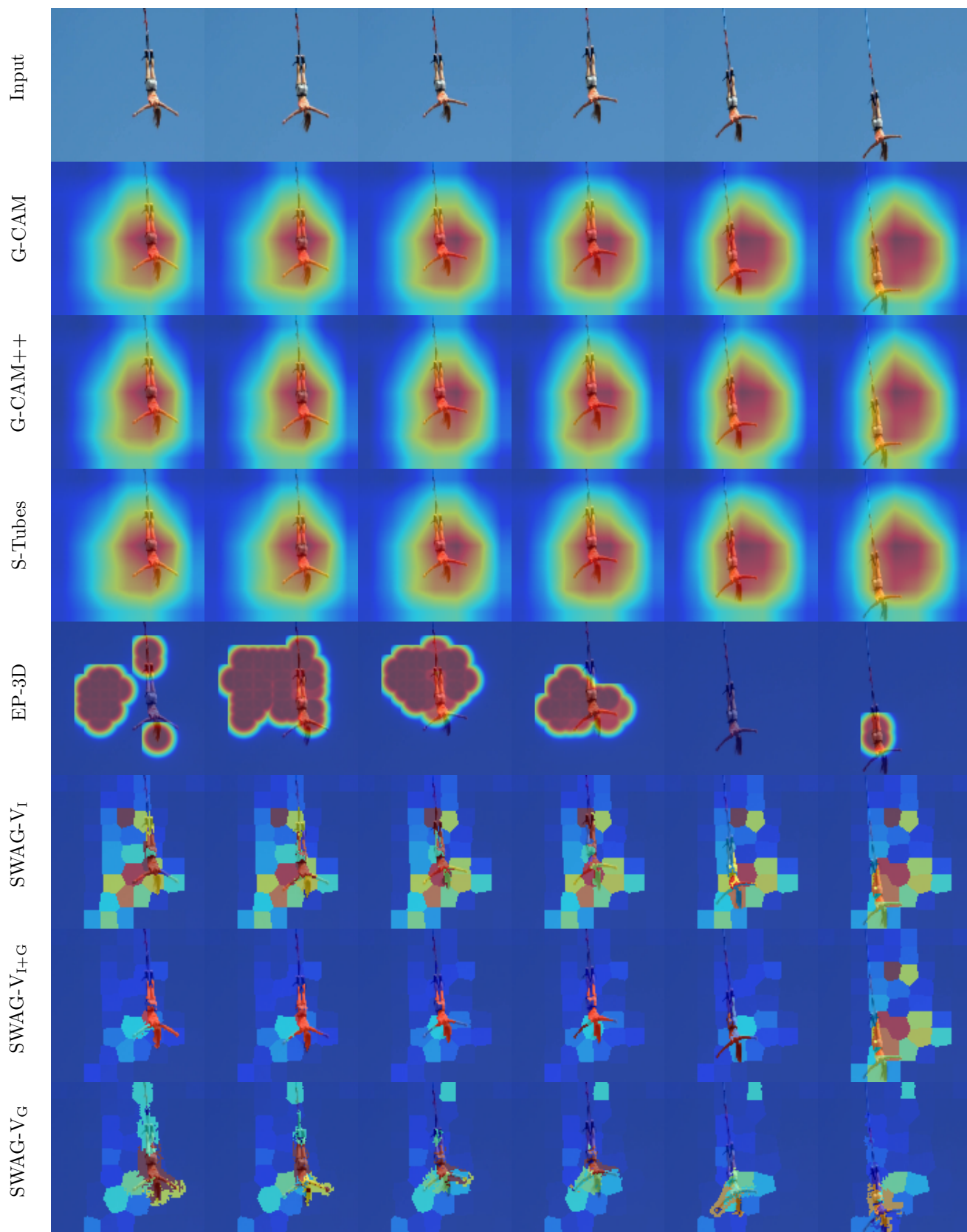


Figure 5: An explanation for the Kinetics 400 class bungee jumping using R(2+1)D.

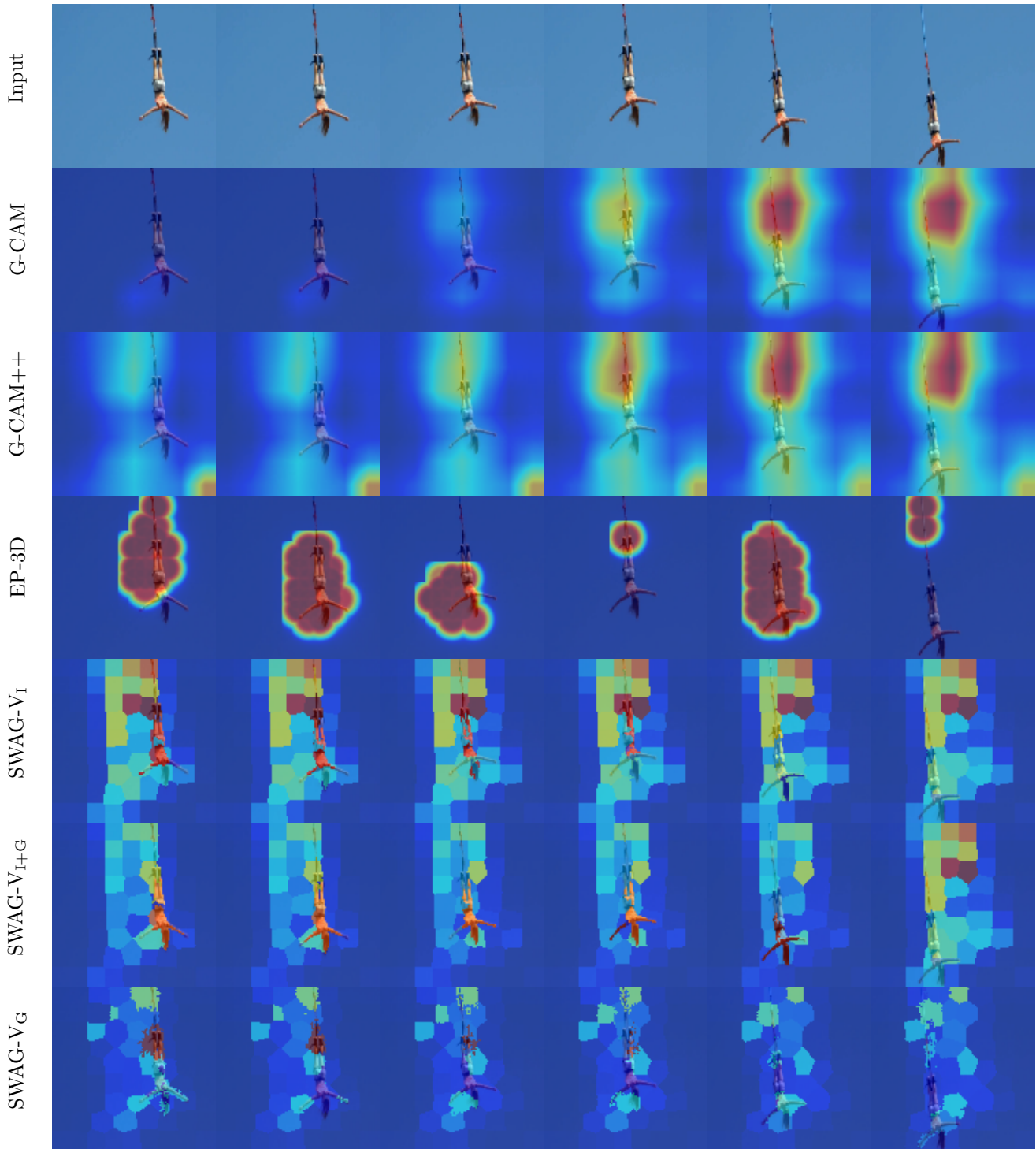


Figure 6: An explanation for the Kinetics 400 class bungee jumping using C3D.

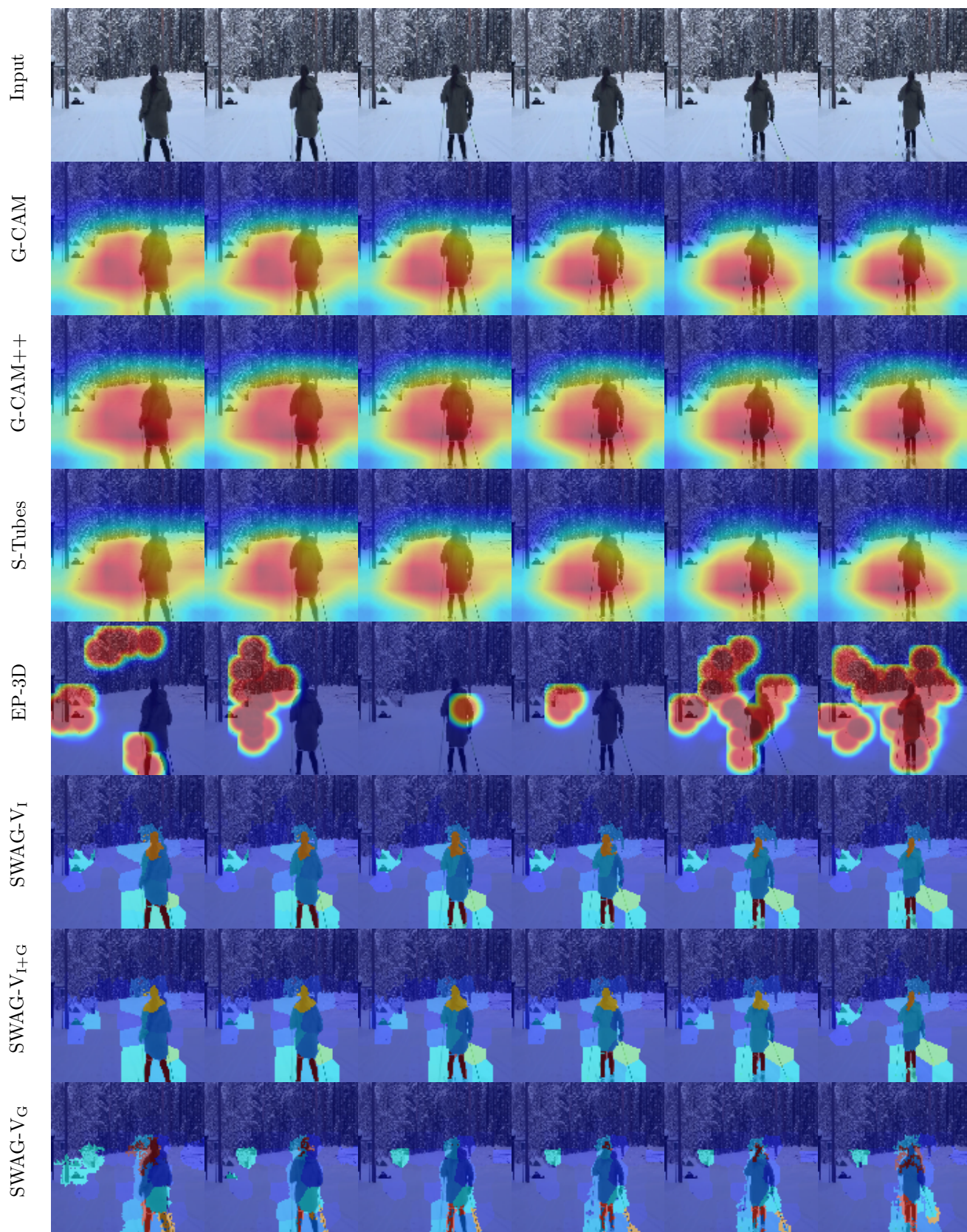


Figure 7: An explanation for the Kinetics 400 class skiing crosscountry using R(2+1)D.

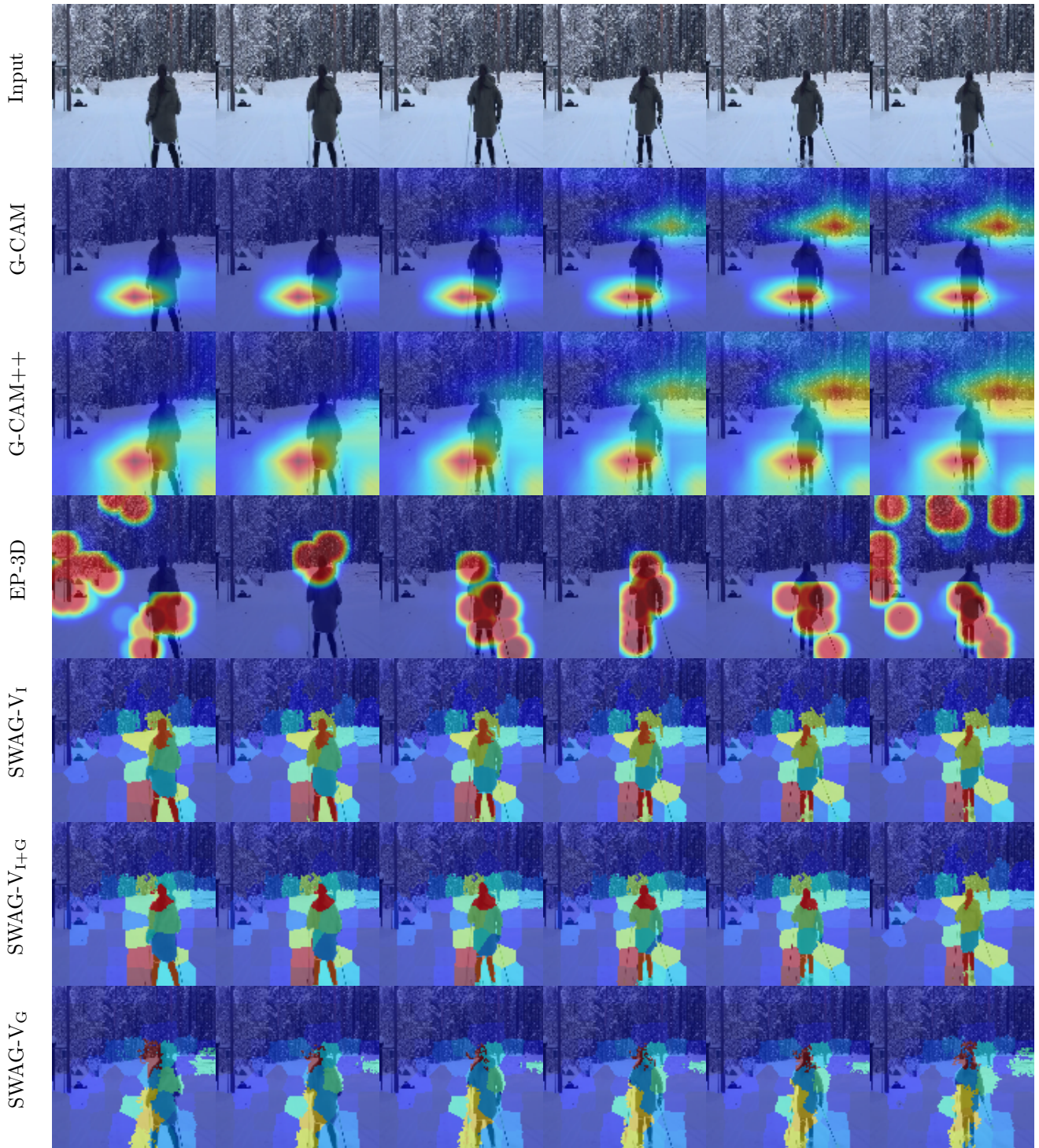


Figure 8: An explanation for the Kinetics 400 class skiing crosscountry using C3D.