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- (71) **Applicant:** **QUALCOMM INCORPORATED** [US/US];
ATTN: International IP Administration, 5775 Morehouse
Drive, San Diego, California 92121-1714 (US).
- (72) **Inventors:** **LI, Yun**; 5775 Morehouse Drive, San Diego,
California 92121-1714 (US). **RUSANOVSKYY, Dmytro**;
5775 Morehouse Drive, San Diego, California 92121-1714
(US). **KARCZEWICZ, Marta**; 5775 Morehouse Drive,
San Diego, California 92121-1714 (US).
- (74) **Agent:** **LOOMIS, Timothy F.**; Shumaker & Sieffert, P.A.,
1625 Radio Drive, Suite 300, Woodbury, Minnesota 55125
(US).
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(54) **Title:** LOW COMPLEXITY NN-BASED IN LOOP FILTER ARCHITECTURES WITH SEPARABLE CONVOLUTION

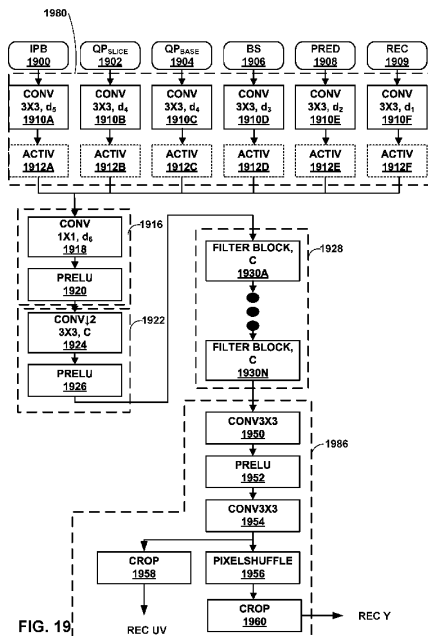


FIG. 19

(57) **Abstract:** Example techniques for filtering video data are described. An example device for at least one of encoding or decoding video data includes one or more memories configured to store the video data and one or more processors. The one or more processors are configured to receive a picture of video data and reconstruct the picture of video data. The one or more processors are also configured to apply a neural network (NN)-based filter to the reconstructed picture of video data. The NN-based filter includes a unified filter. The unified filter includes a head block, a transition block, one or more backbone blocks, and a tail block. At least one of the head block, the transition block, the one or more backbone blocks, or the tail block includes a Canonical Polyadic (CP) decomposition with separable convolution.

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