

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
03 November 2022 (03.11.2022)



(10) International Publication Number
WO 2022/232848 A1

(51) International Patent Classification:

H04N 19/176 (2014.01) *H04N 19/117* (2014.01)
G06V 10/82 (2022.01) *H04N 19/13* (2014.01)
H04N 19/105 (2014.01) *H04N 19/61* (2014.01)

(21) International Application Number:

PCT/US2022/072029

(22) International Filing Date:

29 April 2022 (29.04.2022)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/182,506 30 April 2021 (30.04.2021) US
17/730,040 26 April 2022 (26.04.2022) US

(71) Applicant: **TENCENT AMERICA LLC** [US/US]; 2747 Park Boulevard, Palo Alto, California 94306 (US).

(72) Inventors: **DING, Ding**; c/o Tencent America LLC, 2747 Park Boulevard, Palo Alto, California 94306 (US). **JIANG, Wei**; c/o Tencent America LLC, 2747 Park Boulevard, Palo Alto, California 94306 (US). **WANG, Wei**; c/o Tencent America LLC, 2747 Park Boulevard, Palo Alto, California 94306 (US). **LIU, Shan**; c/o Tencent America LLC, 2747 Park Boulevard, Palo Alto, California 94306 (US).

(74) Agent: **MA, Johnny**; ArentFox Schiff LLP, 1717 K Street NW, Washington, District of Columbia 20006 (US).

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN,

(54) Title: BLOCK-WISE CONTENT-ADAPTIVE ONLINE TRAINING IN NEURAL IMAGE COMPRESSION WITH POST FILTERING

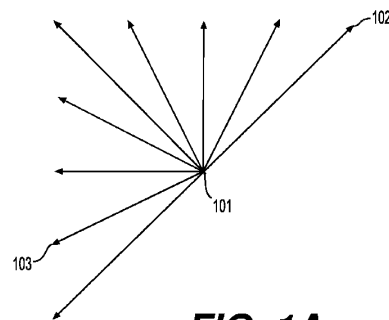
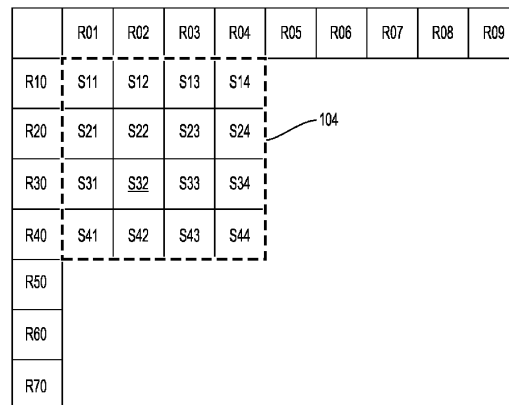


FIG. 1A

(57) Abstract: Aspects of the disclosure provide a method, an apparatus, and a non-transitory computer-readable storage medium for video decoding. The apparatus can include processing circuitry. The processing circuitry is configured to reconstruct blocks of an image from a coded video bitstream. The processing circuitry can perform post-processing on one of a plurality of regions of first two neighboring reconstructed blocks of the reconstructed blocks with at least one post-processing neural network (NN). The first two neighboring reconstructed blocks have a first shared boundary and include a boundary region having samples on both sides of the first shared boundary. The plurality of regions of the first two neighboring reconstructed blocks includes the boundary region and non-boundary regions that are outside the boundary region. The one of the plurality of regions is replaced with the post-processed one of the plurality of regions of the first two neighboring reconstructed blocks.

[Continued on next page]

WO 2022/232848 A1

HR, HU, ID, IL, IN, IR, IS, IT, JM, JO, JP, KE, KG, KH,
KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA,
MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI,
NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU,
RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM,
ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))