

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2024/0214004 A1 KUDO et al.

Jun. 27, 2024 (43) **Pub. Date:**

(54) ENCODING/DECODING APPARATUS, ENCODING/DECODING METHOD AND PROGRAM

(71) Applicant: NIPPON TELEGRAPH AND TELEPHONE CORPORATION,

Tokyo (JP)

(72) Inventors: Shinobu KUDO, Musashino-shi, Tokyo

(JP); Ryuichi TANIDA, Musashino-shi, Tokyo (JP); Hideaki KIMATA, Musashino-shi, Tokyo (JP)

(73) Assignees: NIPPON TELEGRAPH AND TELEPHONE CORPORATION, Tokyo (JP); NIPPON TELEGRAPH AND TELEPHONE

CORPORATION, Tokyo (JP)

(21) Appl. No.: 18/286,221

(22) PCT Filed: May 11, 2021

PCT/JP2021/017893 (86) PCT No.:

§ 371 (c)(1),

(2) Date: Oct. 9, 2023

Publication Classification

(51) Int. Cl. H03M 7/30 (2006.01)

(52) U.S. Cl.

CPC H03M 7/3082 (2013.01); H03M 7/6005 (2013.01); H03M 7/6011 (2013.01)

(57)ABSTRACT

An encoding and decoding device includes: an encoding unit configured to convert input data into an encoded feature vector; a quantization accuracy derivation unit configured to derive quantization accuracy for each encoded feature which is an element of the encoded feature vector in accordance with an encoded code amount, a quantization unit configured to generate a quantized encoded feature vector with a size of a quantized code amount which targets the encoded code amount by executing quantization processing on the encoded feature vector based on the quantization accuracy; and a binarization unit configured to generate encoded data by performing binarization processing on the quantized encoded feature vector.

