US 20240223207A1

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2024/0223207 A1**

WOJCIECHOWSKI et al. (43) **Pub. Date: Jul. 4, 2024**

(54) **MULTIPLY-ACCUMULATE SUCCESSIVE APPROXIMATION DEVICES AND METHODS**

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(21) Appl. No.: **18/148,259**

(22) Filed: **Dec. 29, 2022**

Publication Classification

(51) **Int. Cl.**

H03M 1/46	(2006.01)
G06F 7/544	(2006.01)
G06F 9/30	(2006.01)
G11C 11/413	(2006.01)
H03M 1/80	(2006.01)

(52) **U.S. Cl.**

CPC ***H03M 1/462*** (2013.01); ***G06F 7/5443*** (2013.01); ***G06F 9/3001*** (2013.01); ***G11C 11/413*** (2013.01); ***H03M 1/804*** (2013.01); *G06F 2207/4812* (2013.01); *G06F 2207/4824* (2013.01)

(57) **ABSTRACT**

A multiply-accumulate successive approximation (MASAR) column is provided. The MASAR column includes a plurality of MASAR cells, each including a multiplier configured to perform digital multiplication between an input activation received to an input and an operand to compute a result, and a unit capacitor configured to store the result as analog charge. The MASAR column further includes digital logic configured to perform analog summation of the analog charge of the unit capacitors of the plurality of MASAR cells to determine a digital output of the multiplication.