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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
09 January 2025 (09.01.2025)

WIPO | PCT

(10) International Publication Number
WO 2025/008086 A1

(51) International Patent Classification:
H04L 41/14 (2022.01) *H04L 41/122* (2022.01)
H04L 41/16 (2022.01) *H04L 41/40* (2022.01)

(21) International Application Number:
PCT/EP2024/060374

(22) International Filing Date:
17 April 2024 (17.04.2024)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
20240100238 03 April 2024 (03.04.2024) GR

(71) Applicant: **LENOVO (SINGAPORE) PTE. LTD.** [SG/SG]; 151, Lorong Chuan #02-01, New Tech Park, Singapore 556741 (SG).

(72) Inventors: **KARAMPATSIS, Dimitrios**; 9 Lawn Close, Ruislip Middlesex HA4 6ED (GB). **PATEROMICHELAKIS, Emmanouil**; Breyeller Str. 37, 41751 Viersen (DE). **SAMDANIS, Konstantinos**; Rablst. 18 VI, 81669 Munich (DE).

(74) Agent: **MARKS & CLERK LLP**; 15 Fetter Lane, London Greater, London EC4A 1BW (GB).

(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, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, MG, MK, MN, MU, 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, CV, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, 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, ME, 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).

(54) Title: SUPPORTING FEDERATED LEARNING IN A COMMUNICATION SYSTEM

(57) Abstract: Various aspects of the present disclosure relate to a network entity for wireless communication supporting network data analytics, the network entity comprising instructions executable by at least one processor to cause the network entity to: obtain a request message to train a model for supporting a network analytics operation identified by an analytics identifier; select a set of one or more model training functions to perform a federated learning training process for the model; select a weighting factor for each function of the selected set of one or more model training functions; and control the federated learning training process for the model and the one or more selected functions, based on the selected weighting factor for each said function.

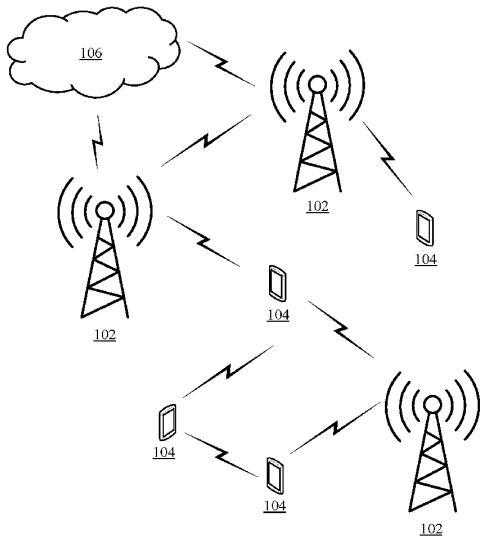


Figure 1

WO 2025/008086 A1

[Continued on next page]

Published:

— *with international search report (Art. 21(3))*
— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*
— *upon request of the applicant, before the expiration of the time limit referred to in Article 21(2)(a)*