



(51) International Patent Classification:

G06N 3/098 (2023.01) H04W 12/72 (2021.01)  
H04L 41/16 (2022.01) G06N 20/00 (2019.01)

(21) International Application Number:

PCT/EP2023/080347

(22) International Filing Date:

31 October 2023 (31.10.2023)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

20230100803 02 October 2023 (02.10.2023) GR

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

(72) Inventors: **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, 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,

(54) Title: REGISTRATION SUPPORT FOR VERTICAL FEDERATED LEARNING ENABLEMENT

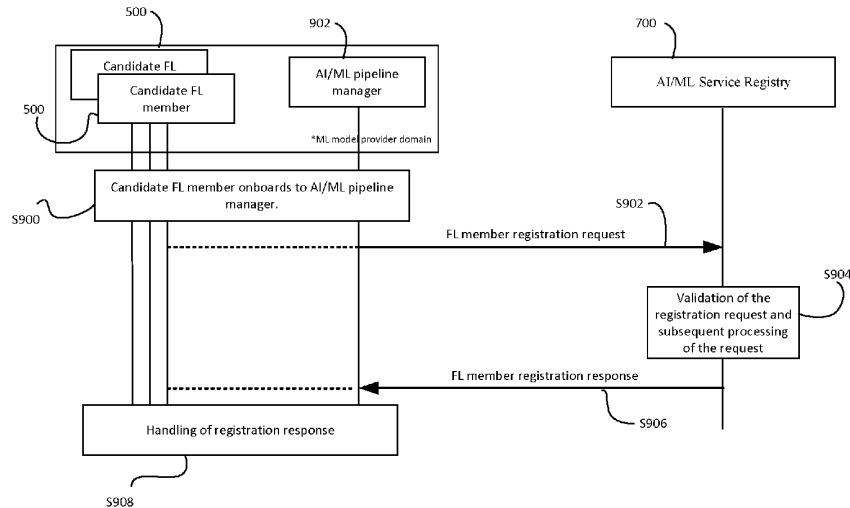


Figure 9

(57) Abstract: Various aspects of the present disclosure relate to an application entity for wireless communication, comprising: at least one memory; and at least one processor coupled with the at least one memory and configured to cause the application entity to: transmit a request message to an artificial intelligence/machine learning, AI/ML, service registry, the request message comprising an identifier indicating a request to register the application entity to serve as a candidate Federated Learning, FL, member to train an application layer ML model; and receive a response message from the AI/ML service registry, the response message comprising a confirmation of the registration of the application entity as an FL member.

[Continued on next page]

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))*
- *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)*
- *in black and white; the international application as filed contained color or greyscale and is available for download from PATENTSCOPE*