

A hybrid approach to **privacy-preserving federated learning**

S Truex, N Baracaldo, A Anwar, T Steinke... - Proceedings of the 12th ..., 2019 - dl.acm.org

... We propose a novel **federated learning** system which provides formal **privacy** guarantees, ... with existing **privacy**-preserving approaches. Data never leaves the participants and **privacy** is ...

☆ Save Cite Cited by 683 Related articles All 11 versions

A survey on security and **privacy** of federated learning

V Mothukuri, RM Parizi, S Pouriyeh, Y Huang... - Future Generation ..., 2021 - Elsevier

... are mature enough to be expected to solve all **privacy** issues by default, at least not for the time ... the existing **privacy** issues and the current relevant achievement in **federated learning** ...

☆ Save Cite Cited by 623 Related articles All 3 versions Web of Science: 294

A survey on **federated learning** systems: Vision, hype and reality for data **privacy** and protection

Q Li, Z Wen, Z Wu, S Hu, N Wang, Y Li... - IEEE Transactions on ..., 2021 - ieeexplore.ieee.org

... **federation** and motivation of **federation**. The categorization can help the design of **federated learning** ... By systematically summarizing the existing **federated learning** systems, we present ...

☆ Save Cite Cited by 558 Related articles All 8 versions Web of Science: 70

Federated learning with differential **privacy**: Algorithms and performance analysis

K Wei, J Li, M Ding, C Ma, HH Yang... - IEEE Transactions ..., 2020 - ieeexplore.ieee.org

Federated learning (FL), as a type of distributed machine **learning**, is capable of significantly ... a novel framework based on the concept of differential **privacy** (DP), in which artificial noise ...

☆ Save Cite Cited by 948 Related articles All 9 versions Web of Science: 388

Related searches

federated learning privacy preserving

federated learning user level

centralized and federated learning privacy analysis

federated learning internet of things

federated learning systems

federated learning in mobile edge networks

survey on federated learning

federated learning at scale

Efficient and **privacy**-enhanced **federated learning** for industrial artificial intelligence

M Hao, H Li, X Luo, G Xu, H Yang... - IEEE Transactions on ..., 2019 - ieeexplore.ieee.org

... In order to solve above challenges, we propose **privacy**enhanced **federated learning** (PEFL) to achieve efficient and PEFL for IAI. Our contributions are summarized as follows: 1) PEFL ...

☆ Save Cite Cited by 361 Related articles All 3 versions Web of Science: 223

Federated learning: Challenges, methods, and future directions

T Li, AK Sahu, A Talwalkar... - IEEE signal processing ..., 2020 - ieeexplore.ieee.org

... aim to enhance the **privacy** of **federated learning** using tools such as secure multiparty computation (SMC) or differential **privacy**, these approaches often provide **privacy** at the cost of ...

☆ Save Cite Cited by 3200 Related articles All 6 versions Web of Science: 1262

A comprehensive survey of **privacy**-preserving **federated learning**: A taxonomy, review, and future directions

X Yin, Y Zhu, J Hu - ACM Computing Surveys (CSUR), 2021 - dl.acm.org

... rapid development of **federated learning** (FL). However, new **privacy** concerns have also emerged during the aggregation of the distributed intermediate results. The emerging **privacy**-...

☆ Save Cite Cited by 205 Related articles All 2 versions Web of Science: 83

Hybridalpha: An efficient approach for **privacy**-preserving **federated learning**

R Xu, N Baracaldo, Y Zhou, A Anwar... - Proceedings of the 12th ..., 2019 - dl.acm.org

... proposed based on differential **privacy** and secure multiparty ... for **privacy**-preserving **federated learning** employing an SMC ... exchanged using a **federated learning** process to train a CNN ...

☆ Save Cite Cited by 252 Related articles All 6 versions

[A survey on federated learning](#)

C Zhang, Y Xie, H Bai, B Yu, W Li, Y Gao - Knowledge-Based Systems, 2021 - Elsevier

... (1) **Privacy** protection: Since **federated learning** is proposed to solve the problem of ... In order to guarantee the **privacy** of the data, **federated learning** only permits all the remote devices ...

☆ Save  Cite Cited by 423 Related articles Web of Science: 194

[Beyond inferring class representatives: User-level **privacy** leakage from federated learning](#)

Z Wang, M Song, Z Zhang, Y Song... - IEEE INFOCOM 2019 ..., 2019 - ieeexplore.ieee.org

... the **privacy** risk of **federated learning**, which is considered as a **privacy-preserving learning** ...

Against federated **learning**, we proposed a generic and practical reconstruction attack named ...

☆ Save  Cite Cited by 611 Related articles All 5 versions