



# DEPARTMENT OF COMPUTER SCIENCE

HIMACHALPRADESH UNIVERSITY

(NAAC Accredited "A" Grade University)

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**Prof. Jawahar Thakur**  
**Chairman**

No. HPU/CSD-

Dated: 30.11.2022.

## NOTICE

Department of Computer Science, Himachal Pradesh University- Shimla is organizing a webinar on "*Practical Secure Privacy - Preserving Machine Learning*" on 01-Dec-2022 at 2:30 P.M. **Dr. Mohit Kumar**, currently working as **Professor** at the *Department of Computer Science and Electrical Engineering, Rostock University, Germany* and **Key Researcher** at *Software Competence Center Hagenberg, Austria* will be the keynote speaker.

All the **Ph.D. Scholars** and **M.Tech. students** are directed to attend the same at Seminar Hall of the Department. Abstract and Microsoft Team Meeting details are given below:

### Abstract:

A methodology for practical secure privacy-preserving distributed machine (deep) learning is proposed via addressing the core issues of fully homomorphic encryption, differential privacy, and scalable fast machine learning. Considering that private data is distributed and the training data may contain directly or indirectly an information about private data, an architecture and a methodology are suggested for

1. mitigating the impracticality issue of fully homomorphic encryption (arising from large computational overhead) via introducing a learning scheme that requires homomorphic computation of only efficient-to-evaluate functions;
2. addressing the privacy-accuracy tradeoff issue of differential privacy via optimizing the noise adding mechanism;
3. defining an information theoretic measure of privacy-leakage for the design and analysis of privacy-preserving schemes; and 4. addressing the optimal model size determination issue and computationally fast training issue of scalable and fast machine (deep) learning with an alternative approach based on variational learning.

**Join on your computer, mobile app, or room device on Microsoft Team Meeting**

[https://teams.microsoft.com/l/meetup-](https://teams.microsoft.com/l/meetup-join/19%3ameeting_OWUwOWQ3ODQtNTg3Mi00ODJhLThkNzAtMzBIYWZjOGFjNWlX%40thread.v2/0?context=%7b%22Tid%22%3a%2222eae64-f042-482e-a652-79746ace4fc8%22%2c%22Oid%22%3a%223868b233-826d-4f77-976c-ad5a10f46ba8%22%7d)

[join/19%3ameeting\\_OWUwOWQ3ODQtNTg3Mi00ODJhLThkNzAtMzBIYWZjOGFjNWlX%40thread.v2/0?context=%7b%22Tid%22%3a%2222eae64-f042-482e-a652-79746ace4fc8%22%2c%22Oid%22%3a%223868b233-826d-4f77-976c-ad5a10f46ba8%22%7d](https://teams.microsoft.com/l/meetup-join/19%3ameeting_OWUwOWQ3ODQtNTg3Mi00ODJhLThkNzAtMzBIYWZjOGFjNWlX%40thread.v2/0?context=%7b%22Tid%22%3a%2222eae64-f042-482e-a652-79746ace4fc8%22%2c%22Oid%22%3a%223868b233-826d-4f77-976c-ad5a10f46ba8%22%7d)

**Meeting ID:** 313 975 257 452

**Passcode:** c6ndZR

  
Chairman 30.11.22

**Copy to:**

*All the faculty members for information please.*