

**The Third Workshop on Federated Learning for Computer Vision (FedVision)
in Conjunction with CVPR 2024**

<https://fedvision.github.io/fedvision2024/>

Federated Learning (FL) has become an important privacy-preserving paradigm in various machine learning tasks. However, the potential of FL in computer vision applications, such as face recognition, person re-identification, and action recognition, is far from being fully exploited. Moreover, FL has rarely been demonstrated effectively in advanced computer vision tasks such as object detection and image segmentation, compared to the traditional centralized training paradigm. This workshop aims at bringing together researchers and practitioners with common interests in FL for computer vision and studying the different synergistic relations in this interdisciplinary area. The day-long event will facilitate interaction among students, scholars, and industry professionals from around the world to discuss future research challenges and opportunities.

Keynote speakers

- **Dr. Lingjuan Lyu**, Senior research scientist and team leader in Sony AI
- **Dr. Nathalie Baracaldo**, Research Staff Member at IBM's Almaden Research Center in San Jose, CA
- **Dr. Virginia Smith**, Machine Learning Department at Carnegie Mellon University
- **Dr. Peter Richtárik**, Computer Science at the King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia
- **Dr. Zhangyang "Atlas" Wang**, Department of Electrical and Computer Engineering, The University of Texas at Austin
- **Dr. Mang Ye**, School of Computer Science, Wuhan University, China
- **Dr. Peter Kairouz**, Google Research, USA

Call for paper

Main research topics of relevance to this workshop include, but are not limited to:

- Novel FL models for computer vision tasks, e.g., scene understanding, face recognition, object detection, person re-identification, image segmentation, human action recognition, medical image processing, etc.
- Privacy-preserving machine learning for computer vision tasks
- Personalized FL models for computer vision applications
- Novel computer vision applications of FL and privacy-preserving machine learning
- FL frameworks and tools designed for computer vision applications and benchmarking
- Novel vision datasets for FL
- Optimization algorithms for FL, particularly algorithms tolerant of data heterogeneity and resource heterogeneity
- Approaches that scale FL to larger models, including model pruning and gradient compression techniques
- Label efficient learning in FL, e.g., self-supervised learning, semi-supervised learning, active learning, etc.
- Neural architecture search (NAS) for FL
- Life-long learning in FL
- Attacks on FL including model poisoning, data poisoning, and corresponding defenses
- Fairness in FL
- Federated domain adaptation
- Privacy leakage and defense in the FL environments
- Privacy-preserving Generative models for CV
- FL based CV pipeline for scene understanding and visual analytics

Organizers

- **Dr. Chen Chen**, Assistant Professor, Center for Research in Computer Vision, University of Central Florida
- **Matias Mendieta**, Ph.D. Candidate, Center for Research in Computer Vision, University of Central Florida
- **Salman Avestimehr**, Professor, University of Southern California, Inaugural Director of the USC-Amazon Center for Secure and Trusted Machine Learning
- **Zhengming Ding**, Assistant Professor, Tulane University
- **Mi Zhang**, Associate Professor, Ohio State University

- **Ang Li**, Assistant Professor, Department of Electrical and Computer Engineering, University of Maryland (UMD) College Park
- **Bo Li**, Associate Professor, Department of Computer Science, University of Chicago
- **Shiqiang Wang**, Staff Research Scientist, IBM T. J. Watson Research Center
- **Yang Liu**, Associate Professor, Institute for AI Industry Research (AIR), Tsinghua University
- **Gauri Joshi**, Associate Professor, Department of Electrical and Computer Engineering, Carnegie Mellon University
- **Saeed Vahidian**, Postdoctoral Associate, Department of Electrical and Computer Engineering, Duke University

Paper (& supplementary material) Submission Deadline: March 11, 2024 (11:59 PM, PST)

Notification: April 6, 2024 (11:59 PM, PST)

Camera-Ready: April 14, 2024 (11:59 PM, PST)

Accepted papers will be published in conjunction with CVPR 2024 proceedings. Paper submissions will adhere to the CVPR 2024 paper submission style, format, and length restrictions.

The CVPR 2024 author kit is available: <https://github.com/cvpr-org/author-kit/releases>

Paper submission website: <https://cmt3.research.microsoft.com/FEDVISION2024>

For any questions, please contact Dr. Chen Chen (chen.chen@crcv.ucf.edu)