Canadian Association of Physicists

Association canadienne des physiciens et physiciennes

Contribution ID: **4554**　　　　　　　Type: **Invited Speaker / Conférencier(ère) invité(e)**

Federated Learning for Heterogeneous Biomedical Data Analysis

Wednesday 29 May 2024 13:30 (45 minutes)

The challenges posed by small and heterogeneous medical datasets significantly impede AI development in biomedical data analysis. My research addresses this issue by utilizing innovative partially personalized federated learning frameworks. These frameworks facilitate collaborative learning across multiple medical centers, enhancing the development of precise, personalized AI models. In this presentation, I will begin by introducing the concept of federated learning. Following this, I will present two straightforward yet effective methods for enabling personalized federated learning to support biomedical data analysis using convolutional neural networks and transformers.

Keyword-1

Deep learning

Keyword-2

Biomedical data analysis

Keyword-3

Trustworthiness of AI systems

Author: LI, Xiaoxiao (Electrical and Computer Engineering, The University of British Columbia)

Presenter: LI, Xiaoxiao (Electrical and Computer Engineering, The University of British Columbia)

Session Classification: (DPMB/DAPI) W3-6 Medical Imaging III | Imagerie médicale III (DPMB/DPAE)

Track Classification: Technical Sessions / Sessions techniques: Physics in Medicine and Biology / Physique en médecine et en biologie (DPMB-DPMB)