Technical Background

Conventional ML training has the safety concern of collecting all the data in a single place which potentially violates the privacy of the data owners. DLFi aims to solve this.

DLFi is designed at Fraunhofer HHI and it is capable of handling the distributed training of ML models based on geodistributed remotely located data. DLFi allows the training of a ML model over privacy-sensitive data and assures the data owners that their privacy will not be compromised.

AT A GLANCE

DLFi is a Privacy-Preserving AI-as-a-Service (PP-AlaaS) solution. It provides a training environment on remote sites without necessarily displacing or transferring the data. It enables data providers to train a ML model without revealing their business-critical data to each other. DLFi offers communication-efficiency and guarantees the privacy of data owners.

Features

- Privacy-Preserving
- Cloud-Native
- Modular and Pluggable
- Customized Visualization Dashboard
- GPU-Acceleration Support
- Communication Efficiency

Applications

- ML Model training over geodistributed data sources
- Shared ML model development exploiting multi-owner data sources
- Secure ML model development over privacy-sensitive datasets
Demonstrated Use-cases

- ML Model Development in Multi-domain Multi-vendor Optical Networks
- ML Model Development in Disaggregated Optical Networks
- Vision Inspection for Quality Assurance in Factory Shop Floors

DLfI for ML model development using decentralized data sources from multiple data providers. In this example, each data provider is represented by a manufacturing site.