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Supplementary Material A

A1 Datasets

A1.1 Overview of Datasets

ID	Dataset	Fault	Working conditions
1	CWRU	Normal Ball(0.07) Ball(0.14) Ball(0.21) Inner(0.07) Inner(0.14) Inner(0.21) Outer(0.07) Outer(0.14) Outer(0.21)	Four load conditions: 0 hp / 1 hp / 2 hp / 3 hp
2	LW	Normal 1 / 4 crack 2 / 4 crack 3 / 4 crack	Four load conditions: 2 Nm / 4 Nm / 6 Nm / 8 Nm
4	PHM09	Normal Chipper gear Broken gear & Bent shaft Imbalance shaft Broken gear & Inner shaft bearing Bent shaft	Four rotating speeds: 30 Hz / 35 Hz / 40 Hz / 45 Hz
5	IMS	Normal Inner Outer	One rotating speed: 2000 rpm
6	JNU	Normal Inner Outer Ball	Three rotating speeds: 600, 800 and 1000 rpm

7	XJTU	Normal Inner Outer	One type of working condition (rotating speed and load) : 37.5 Hz and 11 KN
8	PU	Inner ring damage of EDM in level 1 Outer ring damage of EDM in level 1 Outer ring damage of drilling in level 2 Outer ring damage of drilling in level 1 Inner ring damage of electric engraver in level 1 Outer ring damage of electric engraver in level 1 Inner ring damage of pitting in level 1 Outer ring damage of pitting in level 1 Outer ring damage of electric engraver in level 2 Inner ring damage of electric engraver in level 2 Inner ring damage of pitting in level 2 Outer ring damage of pitting in level 2	Four types of working conditions (rotational speeds, load torques, and radial forces): 1500 rpm, 0.1 Nm, and 1000 N / 1500 rpm, 0.7 Nm, and 400 N / 1500 rpm, 0.7 Nm, and 1000 N / 900 rpm, 0.7 Nm, and 1000 N.
9	HUSTbearing	Normal Inner race in damage level 1 Inner race in damage level 2 Outer race in damage level 1 Outer race in damage level 2 Ball in damage level 1 Ball in damage level 2 Combination in damage level 1 Combination in damage level 2	Four rotating speeds: 65 Hz / 70 Hz / 75 Hz / 80 Hz
10	HUSTgearbox	Normal Broken tooth Missing tooth	Four types of working condition (rotating speed) :20 Hz and 0.113 Nm / 25 Hz and 0.226 Nm / 30 Hz and 0.339 Nm / 35 Hz and 0.452 Nm

(1) CWRU

It is provided by Case Western Reserve University, is based on data from a bearing test rig operating under four load conditions, ranging from 0 to 3 horsepower. Vibration signals were sampled at 12 kHz at the drive end, covering four health states: normal, inner race fault, outer race fault, and ball fault. Each fault type is categorized into three severity levels: 0.007, 0.014, and 0.021 inches. The dataset thus includes ten distinct health conditions, making it a key resource for mechanical fault diagnosis and condition monitoring.

(2) PHM09

The PHM09 dataset, provided by the PHM Society, is based on data from a typical industrial gearbox operating under various conditions. It consists of four bearings: one test bearing and three support bearings. Raw signals were collected from the input channel of the helical gearbox under low-load conditions and recorded at four shaft speeds: 30, 35, 40, and 45 Hz. The dataset includes six health states, covering normal and fault conditions, and is widely used in gearbox fault diagnosis and health monitoring.

(3) KAT/PU

It is provided by the University of Paderborn, includes two types of faulty bearings: artificially and naturally damaged. The artificially damaged bearings were created using electrical discharge machining, drilling, and engraving, while the naturally damaged ones were obtained through accelerated life testing. It contains 12 fault categories for the artificially damaged bearings and 14 for the naturally damaged ones. All data were collected under four operating conditions at a sampling frequency of 64 kHz.

(4) LW

The gearbox test rig includes a servo motor, gearbox, torque sensor, magnetic brake, and brake controller. Four radial crack lengths were introduced in the drive gears: none, 1/4, 1/2, and 3/4. Raw signals were recorded at 0, 2, 4, 6, and 8 Nm loads with a 5 kHz sampling rate.

(5) IMS

It is provided by the University of Cincinnati, is based on an experimental setup with four Rexnord ZA-2115 bearings and a 2000 RPM AC motor. Data were collected at a 20 kHz sampling frequency for 1 second.

(6) JNU

It is provided by Jiangnan University, focuses on fault detection of roller bearings in a centrifugal fan using a Mitsubishi SB-JR induction motor. It includes four fault types: normal, inner race, outer race, and rolling element. Data were collected at three speeds (600, 800, and 1000 rpm) with a 50 kHz sampling frequency over 20 seconds.

(7) Gearbox

It is provided by Southeast University, includes fault types at two speeds (1200 rpm and 1800 rpm) and five data types, with a sampling frequency of 5120 Hz.

(8) XJTU

It is provided by Xi'an Jiaotong University and Changxing Sanying Technology Co., Ltd., contains vibration signals from 15 rolling bearings over their full life cycle under three operating conditions. The data were sampled at 25.6 kHz with a 1-minute interval and 1.28-second duration per sample.

(9) HUSTbearing

It is provided by Huazhong University of Science and Technology, contains bearing data generated using the Spectra-Quest fault simulator, covering eight fault types. The data were recorded at 25.6 Hz, capturing nine vibration signals.

(10) HUSTgearbox

It is provided by Huazhong University of Science and Technology, was generated using the Spectra-Quest fault simulator. The gearbox was configured with two fault modes: broken teeth and missing teeth. Data were collected at various speeds and loads, with a 25.6 kHz sampling frequency.

A1.2 Details of Datasets

(1) CWRU

Case Western Reserve University provides testing data for normal and faulty rolling element bearings. The experiments were conducted using a 2-horsepower induction motor, with acceleration data measured at locations close to and distant from the motor bearings. The actual testing conditions of the motor and the fault status of the bearings were meticulously recorded. Faults were artificially introduced into the motor bearings using electrical discharge machining (EDM). Faults with diameters ranging from 0.007 inches to 0.040 inches were created in the inner race, rolling element (i.e., ball), and outer race. The faulty bearings were then reinstalled into the test motor, and vibration data were recorded under motor loads ranging from 0 to 3 horsepower, with motor speeds varying from 1797 to 1720 RPM.

Link: <http://csegroups.case.edu/bearingdatacenter/home>

Sampling Object : Bearings manufactured by SKF and NIN, including normal bearings, bearings with faults in the inner race, outer race, and rolling elements (balls) at both the drive end and the fan end.

Experimental Environment: The test bearings were mounted to support the motor shaft. Single-point faults were introduced into the test bearings using electrical discharge machining

(EDM). Vibration data were collected using accelerometers, which were attached to the housing via magnetic bases. The accelerometers were positioned at the 12 o'clock location on the motor housing at both the drive end and the fan end. In some experiments, accelerometers were also affixed to the motor support base plate. The vibration signals were acquired using a 16-channel DAT recorder and subsequently processed in the MATLAB environment. Speed and horsepower data were collected using a torque sensor/encoder and manually recorded.

Fault Diameter: 7, 14, 21, 28, and 40 mils (faults with diameters of 7, 14, and 21 mils were introduced in SKF bearings, while NTN equivalent bearings were used for faults with diameters of 28 and 40 mils).

Fault Depth: 0.011 (SKF), 0.050, 0.150

Fault Specifications

Bearing	Fault Location	Diameter	Depth	Bearing Manufacturer
Drive End	Inner Raceway	.007	.011	SKF
Drive End	Inner Raceway	.014	.011	SKF
Drive End	Inner Raceway	.021	.011	SKF
Drive End	Inner Raceway	.028	.050	NTN
Drive End	Outer Raceway	.007	.011	SKF
Drive End	Outer Raceway	.014	.011	SKF
Drive End	Outer Raceway	.021	.011	SKF
Drive End	Outer Raceway	.040	.050	NTN
Drive End	Ball	.007	.011	SKF

Bearing Specifications: Drive end bearing (6205-2RS JEM SKF, deep groove ball bearing); Fan end bearing (6203-2RS JEM SKF, deep groove ball bearing).

Motor load (hp) and speed (rpm): (0, 1979), (1, 1772), (2, 1750), (3, 1730).

Sampling Rate: 12,000 samples per second and 48,000 samples per second.

Detailed Description of the Dataset:

1) Abbreviations:

DE - drive end accelerometer data
 FE - fan end accelerometer data
 BA - base accelerometer data
 time - time series data
 RPM - rpm during testing

2) Dataset:

[Normal Baseline Data](#)

[12k Drive End Bearing Fault Data](#)

[48k Drive End Bearing Fault Data](#)

[Fan-End Bearing Fault Data](#)

2.1) Normal Baseline Data

Motor Load (HP)	Approx. Motor Speed (rpm)	Normal Baseline Data
0	1797	Normal_0
1	1772	Normal_1
2	1750	Normal_2
3	1730	Normal_3

Normal datasets labeled as 0, 1, 2, and 3 are all in the `.mat` file format, each containing two-dimensional features of DE and FE (for detailed meanings, refer to the aforementioned abbreviations), with sample sizes of 243,938, 483,903, 485,063, and 485,063, respectively.

2.2) 12k Drive End Bearing Fault Data

12k Drive End Bearing Fault Data

* = Data not available

Fault Diameter	Motor Load (HP)	Approx. Motor Speed (rpm)	Inner Race	Ball	Outer Race Position Relative to Load Zone (Load Zone Centered at 6:00)		
					Centered @6:00	Orthogonal @3:00	Opposite @12:00
0.007"	0	1797	IR007_0	B007_0	OR007@6_0	OR007@3_0	OR007@12_0
	1	1772	IR007_1	B007_1	OR007@6_1	OR007@3_1	OR007@12_1
	2	1750	IR007_2	B007_2	OR007@6_2	OR007@3_2	OR007@12_2
	3	1730	IR007_3	B007_3	OR007@6_3	OR007@3_3	OR007@12_3
0.014"	0	1797	IR014_0	B014_0	OR014@6_0	*	*
	1	1772	IR014_1	B014_1	OR014@6_1	*	*
	2	1750	IR014_2	B014_2	OR014@6_2	*	*
	3	1730	IR014_3	B014_3	OR014@6_3	*	*
0.021"	0	1797	IR021_0	B021_0	OR021@6_0	OR021@3_0	OR021@12_0
	1	1772	IR021_1	B021_1	OR021@6_1	OR021@3_1	OR021@12_1
	2	1750	IR021_2	B021_2	OR021@6_2	OR021@3_2	OR021@12_2
	3	1730	IR021_3	B021_3	OR021@6_3	OR021@3_3	OR021@12_3
0.028"	0	1797	IR028_0	B028_0	*	*	*
	1	1772	IR028_1	B028_1	*	*	*
	2	1750	IR028_2	B028_2	*	*	*
	3	1730	IR028_3	B028_3	*	*	*

All the blue underlined fonts represent individual `.mat` files (e.g., IR007_0), each containing three features: DE, FE, and BA.

Inner Race: Approximately 2,062,000 samples.

Ball: Approximately 1,952,000 samples.

Outer Race: Approximately 1,464,000 samples (centered) + 976,000 samples (orthogonal) + 976,000 samples (opposite).

2.3) 48k Drive End Bearing Fault Data

48k Drive End Bearing Fault Data

Fault Diameter	Motor Load (HP)	Approx. Motor Speed (rpm)	Inner Race	Ball	Outer Race Position Relative to Load Zone (Load Zone Centered at 6:00)		
					Centered @6:00	Orthogonal @3:00	Opposite @12:00
0.007"	0	1797	IR007_0	B007_0	OR007@6_0	OR007@3_0	OR007@12_0
	1	1772	IR007_1	B007_1	OR007@6_1	OR007@3_1	OR007@12_1
	2	1750	IR007_2	B007_2	OR007@6_2	OR007@3_2	OR007@12_2
	3	1730	IR007_3	B007_3	OR007@6_3	OR007@3_3	OR007@12_3
0.014"	0	1797	IR014_0	B014_0	OR014@6_0	*	*
	1	1772	IR014_1	B014_1	OR014@6_1	*	*
	2	1750	IR014_2	B014_2	OR014@6_2	*	*
	3	1730	IR014_3	B014_3	OR014@6_3	*	*
0.021"	0	1797	IR021_0	B021_0	OR021@6_0	OR021@3_0	OR021@12_0
	1	1772	IR021_1	B021_1	OR021@6_1	OR021@3_1	OR021@12_1
	2	1750	IR021_2	B021_2	OR021@6_2	OR021@3_2	OR021@12_2
	3	1730	IR021_3	B021_3	OR021@6_3	OR021@3_3	OR021@12_3

All the blue underlined fonts denote individual '.mat' files (e.g., IR007_0), each containing two features: DE and FE.

Inner Race: Approximately 4,160,000 samples.

Ball: Approximately 4,022,000 samples.

Outer Race: Approximately 2,940,000 samples (centered) + 2,460,000 samples (orthogonal) + 2,440,000 samples (opposite).

2.4) Fan-End Bearing Fault Data

All the blue underlined fonts indicate individual '.mat' files (e.g., IR007_0), each containing three features: DE, FE, and BA.

Inner Race: Approximately 1,450,000 samples.

Ball: Approximately 1,454,000 samples.

Outer Race: Approximately 2,940,000 samples (centered) + 605,000 samples (orthogonal) + 485,000 samples (opposite).

12k Fan End Bearing Fault Data

* = Data not available

Fault Diameter	Motor Load (HP)	Approx. Motor Speed (rpm)	Inner Race	Ball	Outer Race Position Relative to Load Zone (Load Zone Centered at 6:00)		
					Centered @6:00	Orthogonal @3:00	Opposite @12:00
0.007"	0	1797	IR007_0	BO07_0	QR007@6_0	QR007@3_0	QR007@12_0
	1	1772	IR007_1	BO07_1	QR007@6_1	QR007@3_1	QR007@12_1
	2	1750	IR007_2	BO07_2	QR007@6_2	QR007@3_2	QR007@12_2
	3	1730	IR007_3	BO07_3	QR007@6_3	QR007@3_3	QR007@12_3
0.014"	0	1797	IR014_0	BO14_0	QR014@6_0	QR014@3_0	*
	1	1772	IR014_1	BO14_1	*	QR014@3_1	*
	2	1750	IR014_2	BO14_2	*	QR014@3_2	*
	3	1730	IR014_3	BO14_3	*	QR014@3_3	*
0.021"	0	1797	IR021_0	BO21_0	QR021@6_0	*	*
	1	1772	IR021_1	BO21_1	*	QR021@3_1	*
	2	1750	IR021_2	BO21_2	*	QR021@3_2	*
	3	1730	IR021_3	BO21_3	*	QR021@3_3	*

(2) PHM09

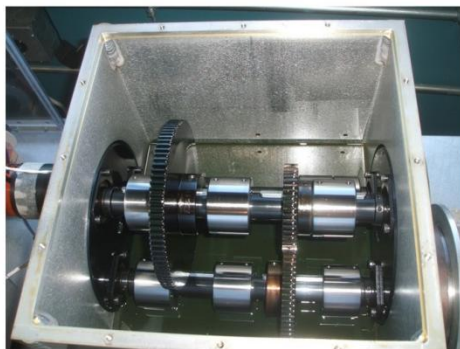
The PHM09 dataset, provided by the PHM Society, is based on data from a typical industrial gearbox operating under various conditions. It consists of four bearings: one test bearing and three support bearings. Raw signals were collected from the input channel of the helical gearbox under low-load conditions and recorded at four shaft speeds: 30, 35, 40, and 45 Hz. The dataset includes six health states, covering normal and fault conditions, and is widely used in gearbox fault diagnosis and health monitoring.

Link: <http://pan.quark.cn/s/edd382287d69#/list/share>

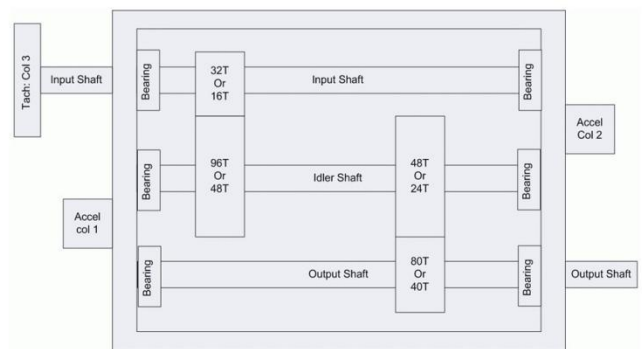
Test rig: The test rig is illustrated in the figure below.

The figure is from the following URL:

<https://github.com/CHAOZHAO-1/Machine-Fault-Dataset>



(a)



(b)

Fault Modes: There are two fault modes in the gearbox:

1) Broken Teeth

2) Missing Teeth

Sample Rate:66,666.67 Samples per Second(200KHz/3)

Data are provided in .mat and .csv files, with three columns - the first column is input voltage, second is output voltage, and the third is tachometer.

The results of the two experimental gears under various conditions are illustrated in the figure below.

Case	Part Gear				Bearing		IS ID OS	Input Shaft Idler Shaft Output Shaft	:IS :OS	Input Side Ouput Side	Shaft	
	32T	96T	48T	80T	IS:IS	ID:IS	OS:IS	IS:OS	ID:OS	OS:OS	Input	Output
Spur 1	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Spur 2	Chipped	Good	Eccentric	Good	Good	Good	Good	Good	Good	Good	Good	Good
Spur 3	Good	Good	Eccentric	Good	Good	Good	Good	Good	Good	Good	Good	Good
Spur 4	Good	Good	Eccentric	Broken	Ball	Good	Good	Good	Good	Good	Good	Good
Spur 5	Chipped	Good	Eccentric	Broken	Inner	Ball	Outer	Good	Good	Good	Good	Good
Spur 6	Good	Good	Good	Broken	Inner	Ball	Outer	Good	Good	Good	Imbalance	Good
Spur 7	Good	Good	Good	Good	Inner	Good	Good	Good	Good	Good	Good	Keyway Sheared
Spur 8	Good	Good	Good	Good	Good	Ball	Outer	Good	Good	Good	Imbalance	Good

Case	16T	48T	24T	40T	IS:IS	ID:IS	OS:IS	IS:OS	ID:OS	OS:OS	Input	Output
Helical 1	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good
Helical 2	Good	Good	Chipped	Good	Good	Good	Good	Good	Good	Good	Good	Good
Helical 3	Good	Good	Broken	Good	Good	Good	Good	Combination	Inner	Good	Bent Shaft	Good
Helical 4	Good	Good	Good	Good	Good	Good	Good	Combination	ball	Good	Imbalance	Good
Helical 5	Good	Good	Broken	Good	Good	Good	Good	Good	Inner	Good	Good	Good
Helical 6	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Bent Shaft	Good

(3) KAT/PU

The dataset from the Chair of Design and Drive Technology at the University of Paderborn is a condition monitoring (CM) experimental dataset for ball bearings based on vibration and motor current signals. The dataset aims to identify defective bearings through the characteristics of stator current signals, with the goal of reproducing relevant faults and damages to create a database for research purposes. This database serves as a foundation for the development, validation, and training of diagnostic methods for rolling element bearing condition monitoring. The dataset includes high-resolution, synchronized measurements of motor current and vibration signals for 26 different bearing damage states and 6 undamaged (healthy) states. The measurements are conducted under four different operating conditions: speed, torque, radial load, and temperature. Each setting includes 20 measurements, each lasting 4 seconds, and the data are saved in MatLab files. The file names consist of a condition code and a four-digit bearing code (e.g., N15_M07_F10_KA01_1.mat, where N15 represents the rotational speed, M07 represents the load torque, F10 represents the radial force, KA01 is the damage state code, and 1 indicates the first of 20 measurements). The content of each '.mat' file includes samples collected over 4 seconds, featuring 3-dimensional X-axis and 7-dimensional Y-axis features. The bearing damages are systematically described through a standardized condition description and measurement log, which can be downloaded along with the data.

Link: <http://mb.uni-paderborn.de/kat/datacenter>

Sampling Object: Drive Motor and Bearing Housing

The stator current of the drive motor and the bearing housing vibration in the form of acceleration on the bearing seat.

Experimental Environment:Parameters:

(rotational speed of the drive system in rpm, load torque of the transmission system in Nm, radial force on the test bearing)

{(1500, 0.7, 1000), (900, 0.7, 1000), (1500, 0.1, 1000), (1500, 0.7, 400)}

Temperature:45-50 °C。

The description standard consists of 4 main categories with a total of 41 subcategories:

- 1) General Information: This category names the bearing types and standard codes according to the standards of each bearing series.
- 2) Manufacturer-Specific Information: This category provides information on the internal geometry and parameters of the bearings.
- 3) Application-Specific Information: This category lists specific information about individual bearings in the form of different identification codes, as well as information on the operating location and corresponding operating conditions.
- 4) Damage: This category describes the damage itself according to ISO 15243 (2010), location, geometry, and occurrence, classified by type and subtype.

Sampling Rate: For each setting, 20 measurements are recorded, each lasting 4 seconds.

Detailed Description of the Dataset:

1) Experiments were conducted on 6203-type ball bearings with 32 different types of bearing damage.

2) Dataset:

- Undamaged (healthy) bearings (6x), see Table 6 in ([pdf](#)).
- Artificially damaged bearings (12x), see Table 4 in ([pdf](#)).
- Bearings with real damages caused by accelerated lifetime tests, (14x) see Table 5 in ([pdf](#))

2.1) Undamaged (healthy) bearings (6x). 【six types of undamaged conditions.】

Table 6. Operating parameters.

No.	Rotational speed [rpm]	Load Torque [Nm]	Radial force [N]	Name of Setting
0	1500	0.7	1000	N15_M07_F10
1	900	0.7	1000	N09_M07_F10
2	1500	0.1	1000	N15_M01_F10
3	1500	0.7	400	N15_M07_F04

A. Each undamaged condition is stored in a separate RAR compressed file. Since there are 6 undamaged conditions, a total of 6 RAR files are provided.

B. Each compressed file contains 80 `.mat` files $[4 \times 20]$, where the number 4 represents the four combinations of rotational speed, load torque, and radial force (see Table 6); the number 20 indicates that each combination was tested 20 times.

C. Each `.mat` file records samples within a 4-second interval, with each sample containing 10-dimensional features, comprising 3-dimensional X and 7-dimensional Y data.

2.2) Artificially damaged bearings (12x) 【Bearings with 12 types of artificially induced damage conditions】

Table 4. Test bearings with artificial damage.

Bearing Code	Component	Extent of Damage (level)	Damage Method
KA01	OR	1	EDM
KA03	OR	2	electric engraver
KA05	OR	1	electric engraver
KA06	OR	2	electric engraver
KA07	OR	1	drilling
KA08	OR	2	drilling
KA09	OR	2	drilling
KI01	IR	1	EDM
KI03	IR	1	electric engraver
KI05	IR	1	electric engraver
KI07	IR	2	electric engraver
KI08	IR	2	electric engraver
OR: outer ring; IR: inner ring;			

A. Each artificially damaged condition is stored in a separate RAR compressed file. Since there are 12 artificially damaged conditions, a total of 12 RAR files are provided.

B. Each compressed file contains 80 `.mat` files $[4 \times 20]$, where the number 4 represents the four combinations of rotational speed, load torque, and radial force; the number 20 indicates that each combination was tested 20 times.

C. Each `.mat` file records samples within a 4-second interval, with each sample containing 10-dimensional features, comprising 3-dimensional X and 7-dimensional Y data.

2.3) Bearings with real damages caused by accelerated lifetime tests (14x) 【Fourteen types of damage conditions resulting from accelerated life testing.】

Table 5. Test bearings with real damages caused by accelerated lifetime test.

Bearing code	Damage (main mode and symptom)	Bearing element	Combination	Arrangement	Extent of damage	Characteristic of damage
KA04	fatigue: pitting	OR	S	no repetition	1	single point
KA15	Plastic deform.: Indentations	OR	S	no repetition	1	single point
KA16	fatigue: pitting	OR	R	random	2	single point
KA22	fatigue: pitting	OR	S	no repetition	1	single point
KA30	Plastic deform.: Indentations	OR	R	random	1	distributed
KB23	fatigue: pitting	IR (+OR)	M	random	2	single point
KB24	fatigue: pitting	IR (+OR)	M	no repetition	3	distributed
KB27	Plastic deform.: Indentations	OR + IR	M	random	1	distributed
KI04	fatigue: pitting	IR	M	no repetition	1	single point
KI14	fatigue: pitting	IR	M	no repetition	1	single point
KI16	fatigue: pitting	IR	S	no repetition	3	single point
KI17	fatigue: pitting	IR	R	random	1	single point
KI18	fatigue: pitting	IR	S	no repetition	2	single point
KI21	fatigue: pitting	IR	S	no repetition	1	single point
OR: outer ring; IR: inner ring; S: single damage; R: repetitive damage; M: multiple damage						

A. Each damage condition resulting from accelerated life testing is stored in a separate RAR compressed file. Since there are 14 such damage conditions, a total of 14 RAR files are provided.

B. Each compressed file contains 80 '.mat' files \[4×20\], where the number 4 represents the four combinations of rotational speed, load torque, and radial force; the number 20 indicates that each combination was tested 20 times.

C. Each '.mat' file records samples within a 4-second interval, with each sample containing 10-dimensional features, comprising 3-dimensional X and 7-dimensional Y data.

(4) LW

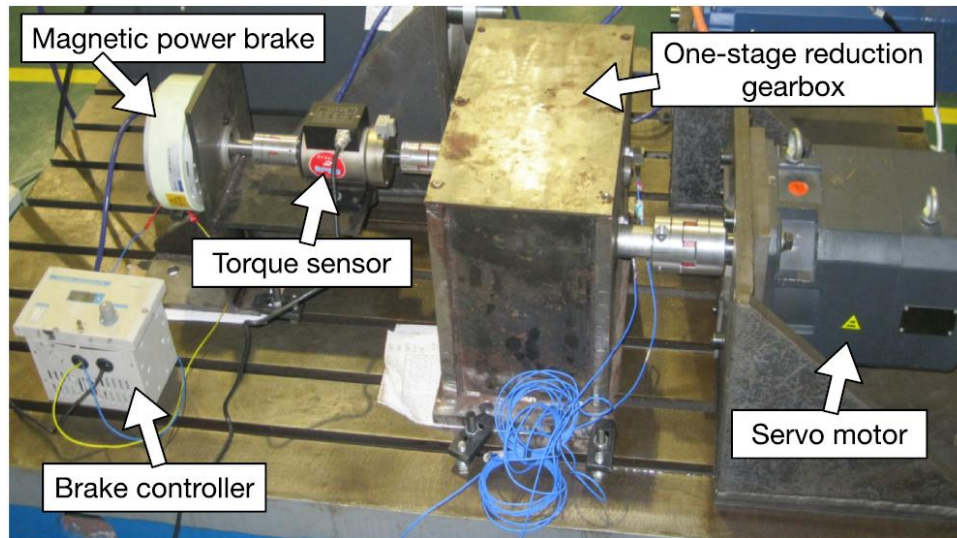
The gearbox test rig includes a servo motor, gearbox, torque sensor, magnetic brake, and brake controller. Four radial crack lengths were introduced in the drive gears: none, 1/4, 1/2, and 3/4. Raw signals were recorded at 0, 2, 4, 6, and 8 Nm loads with a 5 kHz sampling rate.

Link: <https://pan.quark.cn/s/9c4fb31447f9#/list/share>

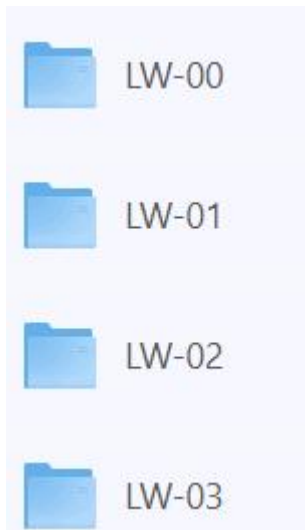
Test rig: The test rig is shown in the figure below.

The figure is from the following URL:

<https://github.com/CHAOZHAO-1/Machine-Fault-Dataset>



Dataset: The dataset contains four files.



LW-00, LW-01, LW-02, LW-03 correspond to crack 0mm, 5mm, 10mm, 15mm respectively.

Sampling frequency: 5000Hz

(5) IMS

The data were generated by the NSF I/UCR Center for Intelligent Maintenance Systems in collaboration with the Rexnord Corporation in Milwaukee, Wisconsin.

Link: <https://www.kaggle.com/vinayak123tyagi/bearing-dataset>

Sampling Object: Double-row Bearings

Experimental Environment: Four bearings were mounted on a single shaft. An AC motor connected to the shaft via a friction belt maintained a constant rotational speed of 2000 revolutions per minute (rpm). A radial load of 6000 pounds was applied to the shaft and

bearings through a spring mechanism. All bearings were force-lubricated.

The Rexnord ZA-2115 double-row bearings were mounted on the shaft, as shown in Figure 1. High-sensitivity quartz ICP accelerometers (PCB 353B33) were installed on the bearing housing. For Dataset 1, each bearing was equipped with two accelerometers (for the x and y axes), while for Datasets 2 and 3, each bearing had one accelerometer.

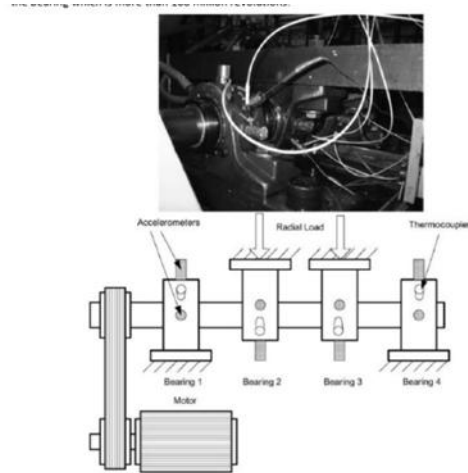


Figure 1 – Bearing test rig and sensor placement illustration [Qiu et al., 2006]

Dataset Details: The data package contains three (3) datasets (IMS-Rexnord Bearing Data.zip). Each dataset describes an experiment from initial testing to failure. Each dataset consists of individual files that capture 1-second snapshots of vibration signals recorded at specific intervals. Each file contains 20,480 samples with a sampling rate set at 20 kHz. The file names indicate the time at which the data were collected. Each record (row) in the data files represents a single data point. Data acquisition was performed using an NI DAQ card 6062E. Larger time intervals indicated in the filenames suggest that the experiment was resumed on the next working day.

Set No.1:

Time Span: From October 22, 2003, 12:06:24 to November 25, 2003, 23:39:56

Number of Files: 2,156

Number of Features (Channels): 8, corresponding to Bearing 1 – Channels 1 & 2; Bearing 2 – Channels 3 & 4; Bearing 3 – Channels 5 & 6; Bearing 4 – Channels 7 & 8

File Recording Interval: Every 10 minutes (the first 43 files were recorded every 5 minutes)

File Format: ASCII

Description: At the end of the test-to-failure experiment, Bearing 3 experienced an inner race fault, while Bearing 4 developed a rolling element fault.

Set No.2:

Time Span: From December 10, 2004, 10:32:39 to December 19, 2004, 06:22:39

Number of Files: 984

Number of Features (Channels): 4, corresponding to Bearing 1 – Channel 1; Bearing 2 – Channel 2; Bearing 3 – Channel 3; Bearing 4 – Channel 4

File Recording Interval: Every 10 minutes

File Format: ASCII

Description: At the end of the test-to-failure experiment, Bearing 1 experienced an outer race fault

Set No. 3:

Time Span: From March 4, 2004, 09:27:46 to April 4, 2004, 19:01:57

Number of Files: 4,448 (a total of 6,324 files available for download)

Number of Features (Channels): 4, corresponding to Bearing 1 – Channel 1; Bearing 2 – Channel 2; Bearing 3 – Channel 3; Bearing 4 – Channel 4

File Recording Interval: Every 10 minutes

File Format: ASCII

Description: At the end of the test-to-failure experiment, Bearing 3 experienced an outer race fault.

(6) JNU

It is provided by Jiangnan University, focuses on fault detection of roller bearings in a centrifugal fan using a Mitsubishi SB-JR induction motor. It includes four fault types: normal, inner race, outer race, and rolling element. Data were collected at three speeds (600, 800, and 1000 rpm) with a 50 kHz sampling frequency over 20 seconds.

Link:<https://github.com/ClarkGableWang/JNU-Bearing-Dataset>

Sampling Objects:Bearings

Experimental Environment: Motor Voltage: 220V

Number of Motor Poles: 4

Rated Speed: 1800 rpm

Sampling Frequency: 50 kHz

Sampling Time: 20 seconds

Detailed Description of the Dataset:

1) The data are stored in CSV file format.

 tb1000_2.csv	
 tb600_2.csv	
 tb800_2.csv	

ib1000_2.csv		
ib600_2.csv		
ib800_2.csv		
n1000_3_2.csv		
n600_3_2.csv		
n800_3_2.csv		
ob1000_2.csv		
ob600_2.csv		
ob800_2.csv		

(7) GearBox

The Gearbox Dataset, provided by Southeast University in China, consists of data collected from a Dynamic Drive System (DDS) simulator. This dataset includes two sub-datasets: one for bearing data and the other for gear data, both obtained from the DDS.

Link: <https://github.com/cathysiyu/Mechanical-datasets/tree/master/gearbox>

Sampling Objects: Bearings and Gears

Experimental Environment:

Dynamic Drive System Simulator (DDS)

Speed-Load Settings: 20-0, 30-2

Frequency Limit: 2000

Spectral Lines: 1600

Number of Blocks: 1024

Detailed Description of the Dataset:

1) Bearings:

Five types of bearing conditions: Ball fault, Inner race fault, Outer race fault, Combined inner and outer race faults, Healthy condition.

Features: A total of 8 dimensions.

1: Motor vibration,

2,3,4: Vibration in the x, y, and z directions of the planetary gearbox,

5: Motor torque,

6,7,8: Vibration in the x, y, and z directions of the parallel gearbox.

Number of samples: 2×5 '.csv' files, where 2 represents two operating conditions (speed and load), and 5 represents the five types of bearing conditions. Each '.csv' file contains 1,048,559 samples.

ball_20_0.csv
ball_30_2.csv
comb_20_0.csv
comb_30_2.csv
health_20_0.csv
health_30_2.csv
inner_20_0.csv
inner_30_2.csv
outer_20_0.csv
outer_30_2.csv

2) Five types of gear conditions: Chipped tooth; Missing tooth; Root fault; Surface fault; Health.

Features: A total of 8 dimensions:

1: Motor vibration,

2,3,4: Vibration in the x, y, and z directions of the planetary gearbox,

5: Motor torque,

6,7,8: Vibration in the x, y, and z directions of the parallel gearbox.

Number of samples: 2×5 '.csv' files, where 2 represents two operating conditions (speed and load), and 5 represents the five types of bearing conditions. Each '.csv' file contains 4,194,304 samples.

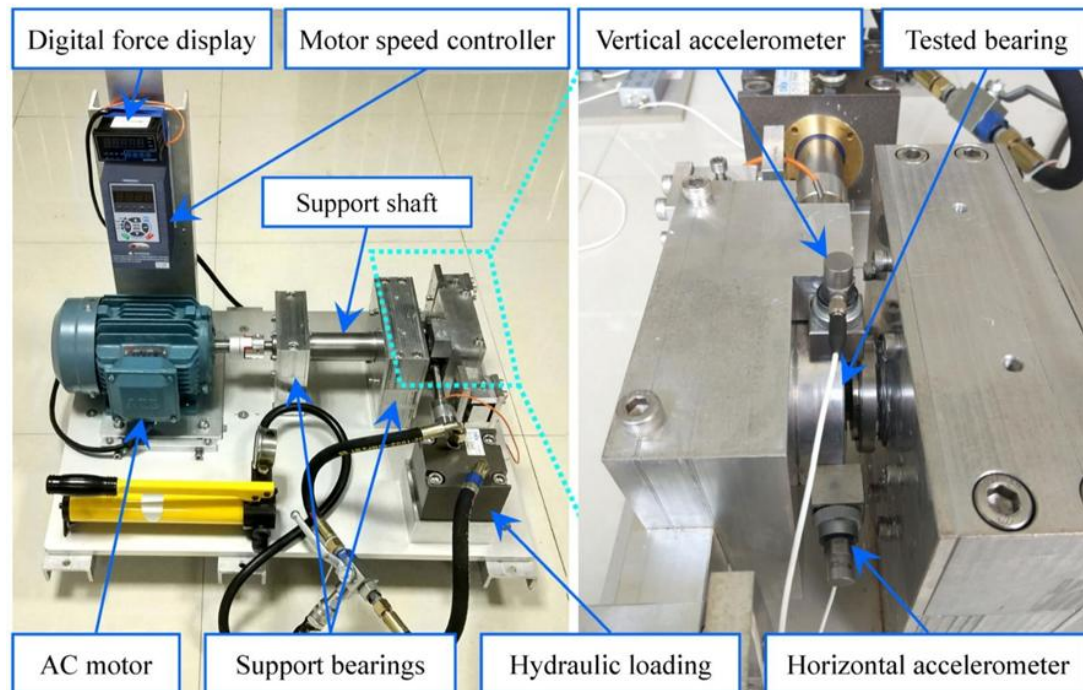
Chipped_20_0.csv
Chipped_30_2.csv
Health_20_0.csv
Health_30_2.csv
Miss_20_0.csv
Miss_30_2.csv
Root_20_0.csv
Root_30_2.csv
Surface_20_0.csv
Surface_30_2.csv

(8) XJTU

The XJTU Rolling Bearing Dataset, provided by the Institute of Design Science and Basic Elements at Xi'an Jiaotong University and SanYing Technology Co., Ltd. in Changxing, Zhejiang, contains complete run-to-failure data for 15 rolling element bearings obtained through multiple accelerated degradation experiments. These datasets are publicly available for validating predictive methods for rolling element bearings. Publications using the XJTU-SY bearing dataset are requested to cite the following paper.

Biao Wang, Yaguo Lei, Naipeng Li, Ningbo Li, “A Hybrid Prognostics Approach for Estimating Remaining Useful Life of Rolling Element Bearings”, *IEEE Transactions on Reliability*, vol. 69, no. 1, pp. 401-412, 2020.

Test Rig and Bearings Under Test: As shown in the figure, the bearing test rig consists of an AC induction motor, a motor speed controller, a support shaft, two supporting bearings (heavy-duty roller bearings), a hydraulic loading system, and other components. The test rig is designed to conduct accelerated degradation tests on rolling element bearings under various operating conditions (i.e., different radial forces and rotational speeds). The radial force is generated by the hydraulic loading system and applied to the housing of the bearing under test, while the rotational speed is set and maintained by the speed controller of the AC induction motor.



The type of the bearing under test is LDK UER204, with detailed parameters provided in the table below.

Parameter	Value	Parameter	Value
Outer race diameter	39.80 mm	Inner race diameter	29.30 mm
Bearing mean diameter	34.55 mm	Ball diameter	7.92 mm
Number of balls	8	Contact angle	0°
Load rating (static)	6.65 kN	Load rating (dynamic)	12.82 kN

Experimental Environment:

Three different operating conditions were set up in the accelerated degradation experiments, with five bearings tested under each condition:

2100 rpm (35 Hz) 和 12 kN;

2250 rpm (37.5Hz) 和 11 kN;

2400 rpm (40 Hz) 和 10 kN。

To collect the vibration signals of the bearings under test, two PCB 352C33 accelerometers were installed on the bearing housing at a 90° angle, with one mounted on the horizontal axis and the other on the vertical axis.

Sampling Rate: The sampling frequency was set to 25.6 kHz, with each sample recording a total of 32,768 data points (i.e., 1.28 seconds), and the sampling interval was equal to 1 minute.

Dataset Details: The run-to-failure data for 15 rolling element bearings are included in the dataset package (XJTUSY_Bearing_Datasets.zip). For each sampling instance, the collected data are saved as a CSV file, with the first column representing the horizontal vibration signal and the second column representing the vertical vibration signal. The table below lists detailed information for each tested bearing, including the number of CSV files, bearing life, and failure element.

Operating condition	Bearing dataset	Number of files	Bearing lifetime	Fault element
Condition 1 (35 Hz/12 kN)	Bearing 1_1	123	2 h 3 min	Outer race
	Bearing 1_2	161	2 h 41 min	Outer race
	Bearing 1_3	158	2 h 38 min	Outer race
	Bearing 1_4	122	2 h 2 min	Cage
	Bearing 1_5	52	52 min	Inner race and outer race
Condition 2 (37.5 Hz/11 kN)	Bearing 2_1	491	8 h 11 min	Inner race
	Bearing 2_2	161	2 h 41 min	Outer race
	Bearing 2_3	533	8 h 53 min	Cage
	Bearing 2_4	42	42 min	Outer race
	Bearing 2_5	339	5 h 39 min	Outer race
Condition 3 (40 Hz/10 kN)	Bearing 3_1	2538	42 h 18 min	Outer race
	Bearing 3_2	2496	41 h 36 min	Inner race, ball, cage and outer race
	Bearing 3_3	371	6 h 11 min	Inner race
	Bearing 3_4	1515	25 h 15 min	Inner race
	Bearing 3_5	114	1 h 54 min	Outer race

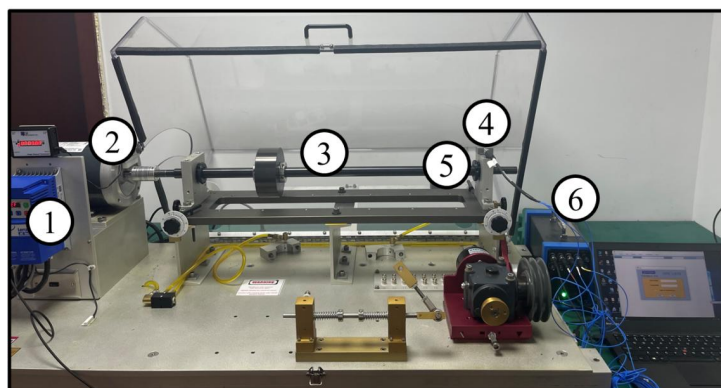
(9) HUSTbearing

It is provided by Huazhong University of Science and Technology, contains bearing data generated using the Spectra-Quest fault simulator, covering eight fault types. The data were recorded at 25.6 Hz, capturing nine vibration signals. This dataset comprises vibration signals from bearings in 9 different health states under 11 distinct operating conditions. These datasets are publicly available, and anyone can use them to validate diagnosis methods for rolling element bearings. Publications making use of the HUSTbearings are requested to cite the following paper.

Chao Zhao, Enrico Zio, Weiming Shen, Domain Generalization for Cross-Domain Fault Diagnosis: an Application-oriented Perspective and a Benchmark Study, Reliability Engineering and System Safety (2024), doi: <https://doi.org/10.1016/j.ress.2024.109964>.

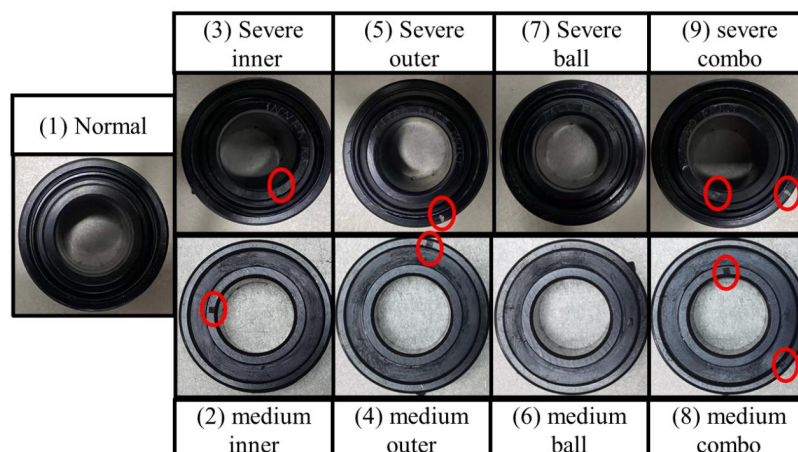
Link: <https://pan.quark.cn/s/1726006de15a#/list/share>

Test Rig and Bearings Under Test: As shown in the figure, from left to right on the bearing test rig are the speed controller, motor, shaft, accelerometer, bearing, and data acquisition board.



1: Speed control, 2: Motor, 3: Shaft, 4: Acceleration sensor, 5: Bearing, 6: Data acquisition board

The nine states of the bearing are shown in the figure below.



- (1) normal,
- (2) medium inner race fault,
- (3) severe inner race fault,
- (4) medium outer race fault,
- (5) severe outer race fault,
- (6) medium ball fault,
- (7) severe ball fault,
- (8) medium combination fault, and
- (9) severe combination fault.

It's important to note that combination fault denotes a fault in both the inner race and outer race.

All faults are artificially preset.

Fault size	severe	medium
Inner/outer race	0.3 mm	0.15 mm
Ball	0.5 mm	0.25 mm

The type of tested bearings is ER-16K, with detailed parameters provided in the table below.

Parameter	Value
Shaft Diameter	38.52 mm
Ball Diameter	7.94 mm
Number of Balls	9

Sampling setting: The sampling frequency is set to 25.6 kHz. A total of 262144 data points (i.e. 10.2s) are recorded for each sampling.

Operating condition: A total of 4 different operating conditions were set in experiments. The operating conditions include:

- 20 Hz
- 25 Hz
- 30 Hz
- 35 Hz
- 40 Hz
- 60 Hz
- 65 Hz
- 70 Hz
- 75 Hz
- 80 Hz

0-40-0 Hz,

Dataset Details: The raw data file comprises 99 files (9 health states multiplied by 11 working conditions), each in Excel format.

For instance, the filename "0.5X_B_65Hz" indicates a medium ball fault under the 65 Hz working condition, where 0.5X denotes medium damage.

The health states are represented by the following codes:

H: healthy

I: inner race fault

O: outer race fault

B: ball fault

C: combination fault

For example, "O_80Hz" signifies a severe ball fault under the 80 Hz working condition.

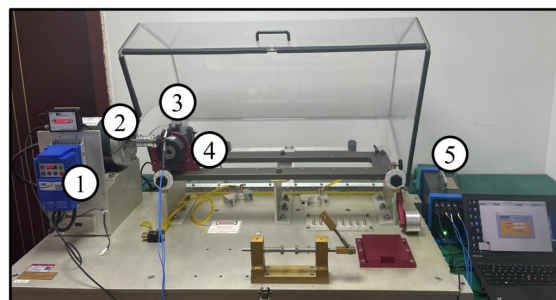
(10) HUSTgearbox

It is provided by Huazhong University of Science and Technology, was generated using the Spectra-Quest fault simulator. The gearbox was configured with two fault modes: broken teeth and missing teeth. Data were collected at various speeds and loads, with a 25.6 kHz sampling frequency. This dataset comprises vibration signals from gearbox in 3 different health states under 30 distinct operating conditions. These datasets are publicly available, and anyone can use them to validate diagnosis methods for gearbox. Publications making use of the HUSTgearbox s are requested to cite the following paper.

Chao Zhao, Enrico Zio, Weiming Shen, Domain Generalization for Cross-Domain Fault Diagnosis: an Application-oriented Perspective and a Benchmark Study, Reliability Engineering and System Safety (2024), doi: <https://doi.org/10.1016/j.ress.2024.109964>.

Link: <http://pan.quark.cn/s/4d3bf3297f74#/list/share>

Test Rig and Bearings Under Test: The gearbox fault tests were conducted using a Spectra-Quest Mechanical Fault Simulator. As shown in the figure, from left to right on the test rig are the speed controller, motor, accelerometer, gearbox, and data acquisition board.



1: Speed control, 2: Motor, 3: Acceleration sensor, 4: gearbox, 5: Data acquisition board

The figure below illustrates the gearbox in three different states:



The three states of the gearbox are as follows:

- 1) Normal,
- 2) Broken tooth,
- 3) Missing tooth.

It's important to note that all faults are artificially preset.

Tested gearbox:

Ratio: 1.5:1

Gearbox Model: Hub City M2

Pitch Angle Gear: $56^{\circ}19'$

Pitch Angle Pinion: $33^{\circ}41'$

Pressure Angle for Gear and Pinion: 20°

Material: Forged steel

Backlash tolerance: 0.001-0.005 inches

Pitch diameter pinion: 1.125 inches

Pitch diameter gear: 1.6875 inches

Number teeth pinion: 18

Number teeth gear: 27

Pinion bearing: NSK 6202 (1 bearing)

Gear bearing: (2 bearings)

Operating Condition: A total of 30 different operating conditions (5 types of loads and 6 types of speeds) were set in experiments.

The operating load include:

- 1) 0 Nm
- 2) 0.113 Nm
- 3) 0.226 Nm
- 4) 0.339 Nm
- 5) 0.452 Nm

The operating speed include:

- 1) 20 Hz
- 2) 25 Hz

- 3) 30 Hz
- 4) 35 Hz
- 5) 40 Hz
- 6) 0-40-0 Hz

Sampling Setting: The sampling frequency is set to 25.6 kHz. A total of 262144 data points (i.e. 10.2s) are recorded for each sampling.

Dataset details: The raw data file comprises 90 files (3 health states multiplied by 30 working conditions), each in TEXT format. For instance, the filename " B_20_1 " indicates broken tooth fault under the 20 Hz and 1×0.113 Nm working condition.

The health states are represented by the following codes:

H:health

B:Broken tooth

M:Missing tooth

A2 Task Description

A2.1 Statistical Heterogeneity

(1) Cross-working Condition

(a) CWRU

Source Domains	Task Type	Task Name	Source classes	Source label Num.	Target classes	Target Num.
[0 hp, 1 hp, 2 hp]	T1-A Domain Shift + No Label Shift	T1-A1	[0,1,2,3,4,5,6,7,8,9] [0,1,2,3,4,5,6,7,8,9] [0,1,2,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200,200,200] [200,200,200,200,200,200,200,200,200,200] [200,200,200,200,200,200,200,200,200,200]	[0,1,2,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200,200,200]
	T1-A Domain Shift + Label Shift (Open-set)	T1-A2	[0,1,2,3,4,5] [0,1,2,3,4,5] [0,1,2,3,4,5]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[0,3,4,5,6]	[200,200,200,200,200]
		T1-A3	[0,1,2,3,4,5] [0,1,2,3,4,5] [0,1,2,3,4,5]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[0,3,4,5,6,7]	[200,200,200,200,200,200]
		T1-A4	[0,1,2,3,4,5] [0,1,2,3,4,5] [0,1,2,3,4,5]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[0,3,4,5,6,7,8]	[200,200,200,200,200,200,200]
		T1-A5	[0,1,2,3,4,5] [0,1,2,3,4,5] [0,1,2,3,4,5]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[0,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200]
		T1-A6	[0,3,4] [0,1,5,6] [0,2,7,8]	[200,200,200] [200,200,200,200] [200,200,200,200]	[0,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200]
		T1-A7	[0,3,4] [0,1,3,5,6] [0,2,3,7,8]	[200,200,200] [200,200,200,200,200] [200,200,200,200,200]	[0,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200]
		T1-A8	[0,3,4] [0,1,3,4,5,6] [0,2,3,4,7,8]	[200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[0,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200]
		T1-A9	[0,3,4,5] [0,1,3,4,5,6] [0,2,3,4,5,7,8]	[200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[0,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200]

		T1-A10	[0,3,4,5,6] [0,1,3,4,5,6] [0,2,3,4,5,6,7,8]	[200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200,200]	[0,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200]
		T1-A11	[0,3,4,5,6,7] [0,1,3,4,5,6,7] [0,2,3,4,5,6,7,8]	[200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[0,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200]
		T1-A12	[0,3,4,5,6,7,8] [0,1,3,4,5,6,7,8] [0,2,3,4,5,6,7,8]	[200,200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[0,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200]
		T1-A13	[0,1,4,5,6,7] [0,2,4,5,6,7] [0,3,4,5,6,7]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[0,4,5,6,7,8,9]	[200,200,200,200,200,200,200]
		T1-A14	[0,1,4,5,6,7] [0,1,2,4,5,6,7] [0,1,3,4,5,6,7]	[200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[0,4,5,6,7,8,9]	[200,200,200,200,200,200,200]
		T1-A15	[0,1,2,4,5,6,7] [0,1,2,4,5,6,7] [0,1,2,3,4,5,6,7]	[200,200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[0,4,5,6,7,8,9]	[200,200,200,200,200,200,200]
		T1-A16	[0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7]	[200,200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[0,4,5,6,7,8,9]	[200,200,200,200,200,200,200]
	T1-B Domain Shift + Label Shift (Closed-set)	T1-B1($\alpha=0.1$)	[0,1,2,3,4,5,6,7,8,9] [0,1,2,3,4,5,6,7,8,9] [0,1,2,3,4,5,6,7,8,9]	[75,2,1,1,73,7,123,226,188,4] [1,277,4,2,1,1,263,138,3,10] [1,2,1,1,349,1,7,1,1,336]	[0,1,2,3,4,5,6,7,8,9]	[70,70,70,70,70,70,70,70,70]
		T1-B2($\alpha=0.5$)	[0,1,2,3,4,5,6,7,8,9] [0,1,2,3,4,5,6,7,8,9] [0,1,2,3,4,5,6,7,8,9]	[406,1,15,2,63,34,2,193,258,226] [97,199,1,136,143,32,452,67,1,72] [380,32,91,11,88,178,31,35,11,343]	[0,1,2,3,4,5,6,7,8,9]	[120,120,120,120,120,120,120,120,120]
		T1-B3($\alpha=1$)	[0,1,2,3,4,5,6,7,8,9] [0,1,2,3,4,5,6,7,8,9] [0,1,2,3,4,5,6,7,8,9]	[111,79,14,405,449,18,140,118,6,160] [410,60,113,42,173,352,36,3,149,162] [123,21,362,41,17,4,267,95,402,168]	[0,1,2,3,4,5,6,7,8,9]	[150,150,150,150,150,150,150,150,150]
		T1-B4($\alpha=5$)	[0,1,2,3,4,5,6,7,8,9] [0,1,2,3,4,5,6,7,8,9] [0,1,2,3,4,5,6,7,8,9]	[120,144,373,322,188,49,150,373,132,149] [168,214,231,229,130,121,288,239,200,180] [169,103,359,169,178,173,113,119,225,392]	[0,1,2,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200,200]

[0 hp, 1 hp, 3 hp]	2 hp	T2-A Domain Shift + No Label Shift	T2-A1	[0,1,2,3,4,5,6,7,8,9] [0,1,2,3,4,5,6,7,8,9] [0,1,2,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200,200,200,] [200,200,200,200,200,200,200,200,200,200,] [200,200,200,200,200,200,200,200,200,200]	[0,1,2,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200,200]
		T2-A Domain Shift + Label Shift (Open-set)	T2-A2	[0,1,2,3,4,5] [0,1,2,3,4,5] [0,1,2,3,4,5]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[0,3,4,5,6]	[200,200,200,200,200]
			T2-A3	[0,1,2,3,4,5] [0,1,2,3,4,5] [0,1,2,3,4,5]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[0,3,4,5,6,7]	[200,200,200,200,200,200]
			T2-A4	[0,1,2,3,4,5] [0,1,2,3,4,5] [0,1,2,3,4,5]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[0,3,4,5,6,7,8]	[200,200,200,200,200,200,200]
			T2-A5	[0,1,2,3,4,5] [0,1,2,3,4,5] [0,1,2,3,4,5]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[0,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200]
			T2-A6	[0,3,4] [0,1,5,6] [0,2,7,8]	[200,200,200] [200,200,200,200] [200,200,200,200]	[0,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200]
			T2-A7	[0,3,4] [0,1,3,5,6] [0,2,3,7,8]	[200,200,200] [200,200,200,200,200] [200,200,200,200,200]	[0,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200]
			T2-A8	[0,3,4] [0,1,3,4,5,6] [0,2,3,4,7,8]	[200,200,200] [200,200,200,200,200] [200,200,200,200,200,200]	[0,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200]
			T2-A9	[0,3,4,5] [0,1,3,4,5,6] [0,2,3,4,5,7,8]	[200,200,200] [200,200,200,200,200] [200,200,200,200,200,200]	[0,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200]
			T2-A10	[0,3,4,5,6] [0,1,3,4,5,6] [0,2,3,4,5,6,7,8]	[200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200,200]	[0,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200]
			T2-A11	[0,3,4,5,6,7] [0,1,3,4,5,6,7] [0,2,3,4,5,6,7,8]	[200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[0,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200]
			T2-A12	[0,3,4,5,6,7,8] [0,1,3,4,5,6,7,8] [0,2,3,4,5,6,7,8]	[200,200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[0,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200]
			T2-A13	[0,1,4,5,6,7]	[200,200,200,200,200,200]	[0,4,5,6,7,8,9]	[200,200,200,200,200,200,200]

				[0,2,4,5,6,7] [0,3,4,5,6,7]	[200,200,200,200,200,200] [200,200,200,200,200,200]					
			T2-A14	[0,1,4,5,6,7] [0,1,2,4,5,6,7] [0,1,3,4,5,6,7]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[0,4,5,6,7,8,9]	[200,200,200,200,200,200,200]			
			T2-A15	[0,1,2,4,5,6,7] [0,1,2,4,5,6,7] [0,1,2,3,4,5,6,7]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[0,4,5,6,7,8,9]	[200,200,200,200,200,200,200]			
			T2-A16	[0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[0,4,5,6,7,8,9]	[200,200,200,200,200,200,200]			
			T2-B Domain Shift + Label Shift (Closed-set)	T2-B1($\alpha=0.1$)	[0,1,2,3,4,5,6,7,8,9] [0,1,2,3,4,5,6,7,8,9] [0,1,2,3,4,5,6,7,8,9]	[75,2,1,1,73,7,123,226,188,4] [1,277,4,2,1,1,263,138,3,10] [1,2,1,1,349,1,7,1,1,336]	[0,1,2,3,4,5,6,7,8,9]	[70,70,70,70,70,70,70,70,70]		
				T2-B2($\alpha=0.5$)	[0,1,2,3,4,5,6,7,8,9] [0,1,2,3,4,5,6,7,8,9] [0,1,2,3,4,5,6,7,8,9]	[406,1,15,2,63,34,2,193,258,226] [97,199,1,136,143,32,452,67,1,72] [380,32,91,11,88,178,31,35,11,343]	[0,1,2,3,4,5,6,7,8,9]	[120,120,120,120,120,120,120,120,120]		
				T2-B3($\alpha=1$)	[0,1,2,3,4,5,6,7,8,9] [0,1,2,3,4,5,6,7,8,9] [0,1,2,3,4,5,6,7,8,9]	[111,79,14,405,449,18,140,118,6,160] [410,60,113,42,173,352,36,3,149,162] [123,21,362,41,17,4,267,95,402,168]	[0,1,2,3,4,5,6,7,8,9]	[150,150,150,150,150,150,150,150,150]		
				T2-B4($\alpha=5$)	[0,1,2,3,4,5,6,7,8,9] [0,1,2,3,4,5,6,7,8,9] [0,1,2,3,4,5,6,7,8,9]	[120,144,373,322,188,49,150,373,132,149] [168,214,231,229,130,121,288,239,200,180] [169,103,359,169,178,173,113,119,225,392]	[0,1,2,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200,200]		
			[0 hp, 2 hp, 3 hp]	1 hp	T3-A Domain Shift + No Label Shift	T3-A1	[0,1,2,3,4,5,6,7,8,9] [0,1,2,3,4,5,6,7,8,9] [0,1,2,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200,200,] [200,200,200,200,200,200,200,200,200,] [200,200,200,200,200,200,200,200,200]	[0,1,2,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200,200]
					T3-A Domain Shift + Label Shift (Open-set)	T3-A2	[0,1,2,3,4,5] [0,1,2,3,4,5] [0,1,2,3,4,5]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[0,3,4,5,6]	[200,200,200,200,200]
						T3-A3	[0,1,2,3,4,5] [0,1,2,3,4,5] [0,1,2,3,4,5]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[0,3,4,5,6,7]	[200,200,200,200,200,200]
						T3-A4	[0,1,2,3,4,5] [0,1,2,3,4,5] [0,1,2,3,4,5]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[0,3,4,5,6,7,8]	[200,200,200,200,200,200,200]
		T3-A5				[0,1,2,3,4,5] [0,1,2,3,4,5] [0,1,2,3,4,5]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[0,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200]	

			T3-A6	[0,3,4] [0,1,5,6] [0,2,7,8]	[200,200,200] [200,200,200,200] [200,200,200,200]	[0,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200]
			T3-A7	[0,3,4] [0,1,3,5,6] [0,2,3,7,8]	[200,200,200] [200,200,200,200,200] [200,200,200,200,200]	[0,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200]
			T3-A8	[0,3,4] [0,1,3,4,5,6] [0,2,3,4,7,8]	[200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[0,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200]
			T3-A9	[0,3,4,5] [0,1,3,4,5,6] [0,2,3,4,5,7,8]	[200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200,200]	[0,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200]
			T3-A10	[0,3,4,5,6] [0,1,3,4,5,6] [0,2,3,4,5,6,7,8]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200,200]	[0,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200]
			T3-A11	[0,3,4,5,6,7] [0,1,3,4,5,6,7] [0,2,3,4,5,6,7,8]	[200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[0,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200]
			T3-A12	[0,3,4,5,6,7,8] [0,1,3,4,5,6,7,8] [0,2,3,4,5,6,7,8]	[200,200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[0,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200]
			T3-A13	[0,1,4,5,6,7] [0,2,4,5,6,7] [0,3,4,5,6,7]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[0,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200]
			T3-A14	[0,1,4,5,6,7] [0,1,2,4,5,6,7] [0,1,3,4,5,6,7]	[200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[0,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200]
			T3-A15	[0,1,2,4,5,6,7] [0,1,2,4,5,6,7] [0,1,2,3,4,5,6,7]	[200,200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[0,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200]
			T3-A16	[0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7]	[200,200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[0,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200]
		T3-B Domain Shift + Label Shift (Closed-set)	T3-B1($\alpha=0.1$)	[0,1,2,3,4,5,6,7,8,9] [0,1,2,3,4,5,6,7,8,9] [0,1,2,3,4,5,6,7,8,9]	[75,2,1,1,73,7,123,226,188,4] [1,277,4,2,1,1,263,138,3,10] [1,2,1,1,349,1,7,1,1,336]	[0,1,2,3,4,5,6,7,8,9]	[70,70,70,70,70,70,70,70,70]
			T3-B2($\alpha=0.5$)	[0,1,2,3,4,5,6,7,8,9] [0,1,2,3,4,5,6,7,8,9]	[406,1,15,2,63,34,2,193,258,226] [97,199,1,136,143,32,452,67,1,72]	[0,1,2,3,4,5,6,7,8,9]	[120,120,120,120,120,120,120,120,120]

				[0,1,2,3,4,5,6,7,8,9]	[380,32,91,11,88,178,31,35,11,343]		
			T3-B3($\alpha=1$)	[0,1,2,3,4,5,6,7,8,9]	[111,79,14,405,449,18,140,118,6,160]	[0,1,2,3,4,5,6,7,8,9]	[150,150,150,150,150,150,150,150,150,150]
				[0,1,2,3,4,5,6,7,8,9]	[410,60,113,42,173,352,36,3,149,162]		
				[0,1,2,3,4,5,6,7,8,9]	[123,21,362,41,17,4,267,95,402,168]		
			T3-B4($\alpha=5$)	[0,1,2,3,4,5,6,7,8,9]	[120,144,373,322,188,49,150,373,132,149]	[0,1,2,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200,200,200]
				[0,1,2,3,4,5,6,7,8,9]	[168,214,231,229,130,121,288,239,200,180]		
				[0,1,2,3,4,5,6,7,8,9]	[169,103,359,169,178,173,113,119,225,392]		
[1 hp, 2 hp, 3 hp]	0 hp	T4-A Domain Shift + No Label Shift	T4-A1	[0,1,2,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200,200,200,]	[0,1,2,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200,200]
				[0,1,2,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200,200,200,]		
				[0,1,2,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200,200,200]		
		T4-A Domain Shift + Label Shift (Open-set)	T4-A2	[0,1,2,3,4,5]	[200,200,200,200,200,200]	[0,3,4,5,6]	[200,200,200,200,200]
				[0,1,2,3,4,5]	[200,200,200,200,200,200]		
				[0,1,2,3,4,5]	[200,200,200,200,200,200]		
			T4-A3	[0,1,2,3,4,5]	[200,200,200,200,200,200]	[0,3,4,5,6,7]	[200,200,200,200,200,200]
				[0,1,2,3,4,5]	[200,200,200,200,200,200]		
				[0,1,2,3,4,5]	[200,200,200,200,200,200]		
			T4-A4	[0,1,2,3,4,5]	[200,200,200,200,200,200]	[0,3,4,5,6,7,8]	[200,200,200,200,200,200,200]
				[0,1,2,3,4,5]	[200,200,200,200,200,200]		
				[0,1,2,3,4,5]	[200,200,200,200,200,200]		
			T4-A5	[0,1,2,3,4,5]	[200,200,200,200,200,200]	[0,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200]
				[0,1,2,3,4,5]	[200,200,200,200,200,200]		
				[0,1,2,3,4,5]	[200,200,200,200,200,200]		
			T4-A6	[0,3,4]	[200,200,200]	[0,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200]
				[0,1,5,6]	[200,200,200,200]		
				[0,2,7,8]	[200,200,200,200]		
			T4-A7	[0,3,4]	[200,200,200]	[0,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200]
				[0,1,3,5,6]	[200,200,200,200,200]		
				[0,2,3,7,8]	[200,200,200,200,200]		
			T4-A8	[0,3,4]	[200,200,200]	[0,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200]
				[0,1,3,4,5,6]	[200,200,200,200,200,200]		
				[0,2,3,4,7,8]	[200,200,200,200,200,200]		
			T4-A9	[0,3,4,5]	[200,200,200]	[0,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200]
				[0,1,3,4,5,6]	[200,200,200,200,200,200]		
				[0,2,3,4,5,7,8]	[200,200,200,200,200,200,200]		
			T4-A10	[0,3,4,5,6]	[200,200,200,200,200]	[0,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200]
				[0,1,3,4,5,6]	[200,200,200,200,200,200]		
				[0,2,3,4,5,6,7,8]	[200,200,200,200,200,200,200,200]		
			T4-A11	[0,3,4,5,6,7]	[200,200,200,200,200,200]	[0,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200]

				[0,1,3,4,5,6,7] [0,2,3,4,5,6,7,8]	[200,200,200,200,200,200,200] [200,200,200,200,200,200,200,200]		
			T4-A12	[0,3,4,5,6,7,8] [0,1,3,4,5,6,7,8] [0,2,3,4,5,6,7,8]	[200,200,200,200,200,200,200] [200,200,200,200,200,200,200,200] [200,200,200,200,200,200,200,200]	[0,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200]
			T4-A13	[0,1,4,5,6,7] [0,2,4,5,6,7] [0,3,4,5,6,7]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[0,4,5,6,7,8,9]	[200,200,200,200,200,200,200]
			T4-A14	[0,1,4,5,6,7] [0,1,2,4,5,6,7] [0,1,3,4,5,6,7]	[200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[0,4,5,6,7,8,9]	[200,200,200,200,200,200,200]
			T4-A15	[0,1,2,4,5,6,7] [0,1,2,4,5,6,7] [0,1,2,3,4,5,6,7]	[200,200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[0,4,5,6,7,8,9]	[200,200,200,200,200,200,200]
			T4-A16	[0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7]	[200,200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[0,4,5,6,7,8,9]	[200,200,200,200,200,200,200]
		T4-B Domain Shift + Label Shift (Closed-set)	T4-B1($\alpha=0.1$)	[0,1,2,3,4,5,6,7,8,9] [0,1,2,3,4,5,6,7,8,9] [0,1,2,3,4,5,6,7,8,9]	[75,2,1,1,73,7,123,226,188,4] [1,277,4,2,1,1,263,138,3,10] [1,2,1,1,349,1,7,1,1,336]	[0,1,2,3,4,5,6,7,8,9]	[70,70,70,70,70,70,70,70,70]
			T4-B2($\alpha=0.5$)	[0,1,2,3,4,5,6,7,8,9] [0,1,2,3,4,5,6,7,8,9] [0,1,2,3,4,5,6,7,8,9]	[406,1,15,2,63,34,2,193,258,226] [97,199,1,136,143,32,452,67,1,72] [380,32,91,11,88,178,31,35,11,343]	[0,1,2,3,4,5,6,7,8,9]	[120,120,120,120,120,120,120,120,120]
			T4-B3($\alpha=1$)	[0,1,2,3,4,5,6,7,8,9] [0,1,2,3,4,5,6,7,8,9] [0,1,2,3,4,5,6,7,8,9]	[111,79,14,405,449,18,140,118,6,160] [410,60,113,42,173,352,36,3,149,162] [123,21,362,41,17,4,267,95,402,168]	[0,1,2,3,4,5,6,7,8,9]	[150,150,150,150,150,150,150,150,150]
			T4-B4($\alpha=5$)	[0,1,2,3,4,5,6,7,8,9] [0,1,2,3,4,5,6,7,8,9] [0,1,2,3,4,5,6,7,8,9]	[120,144,373,322,188,49,150,373,132,149] [168,214,231,229,130,121,288,239,200,180] [169,103,359,169,178,173,113,119,225,392]	[0,1,2,3,4,5,6,7,8,9]	[200,200,200,200,200,200,200,200,200]

(a) PHM09

Source Domains	Target Domain	Task Type	Task Name	Source classes	Source label Num.	Target classes	Target Num.
[35 Hz, 40 Hz, 45 Hz]	30 Hz	T1-A Domain Shift + No Label Shift	T1-A1	[0,1,2,3,4,5] [0,1,2,3,4,5] [0,1,2,3,4,5]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[0,1,2,3,4,5]	[200,200,200,200,200,200]
		T1-A Domain Shift + Label Shift (Open-set)	T1-A2	[0,1,2] [0,1,2] [0,1,2]	[200,200,200] [200,200,200] [200,200,200]	[2,3]	[200,200]
				[0,1,2] [0,1,2] [0,1,2]	[200,200,200] [200,200,200] [200,200,200]	[2,3,4]	[200,200,200]
			T1-A4	[0,1,2] [0,1,2] [0,1,2]	[200,200,200] [200,200,200] [200,200,200]	[2,3,4,5]	[200,200,200,200]
				[0,3] [1,4] [2]	[200,200] [200,200] [200]	[3,4,5]	[200,200,200]
			T1-A6	[0,3] [1,3,4] [2,3]	[200,200] [200,200,200] [200,200]	[3,4,5]	[200,200,200]
				[0,3,4] [1,3,4] [2,3,4]	[200,200,200] [200,200,200] [200,200,200]	[3,4,5]	[200,200,200]
			T1-A8	[0,3,4] [1,3,4] [2,3,4]	[200,200,200] [200,200,200] [200,200,200]	[3,4,5]	[200,200,200]
				[0,3,4] [0,1,3,4] [0,2,3,4]	[200,200,200] [200,200,200,200] [200,200,200,200]	[3,4,5]	[200,200,200]
			T1-A10	[0,1,3,4] [0,1,3,4] [0,1,2,3,4]	[200,200,200,200] [200,200,200,200] [200,200,200,200,200]	[3,4,5]	[200,200,200]
				[0,1,2,3,4] [0,1,2,3,4] [0,1,2,3,4]	[200,200,200,200,200] [200,200,200,200,200] [200,200,200,200,200]	[3,4,5]	[200,200,200]
			T1-A11	[0,1,2,3,4] [0,1,2,3,4] [0,1,2,3,4]	[200,200,200,200,200] [200,200,200,200,200] [200,200,200,200,200]	[3,4,5]	[200,200,200]
		T1-B Domain Shift	T1-B1($\alpha=0.1$)	[0,1,2,3,4,5]	[1,1,341,3,19,535]	[0,1,2,3,4,5]	[150,150,150,150,150,150]

[30 Hz, 40 Hz, 45 Hz]	35 Hz	+ Label Shift (Closed-set)		[0,1,2,3,4,5] [0,1,2,3,4,5]	[126,20,1,733,18,2] [672,1,1,5,220,1]		
			T1-B2($\alpha=0.5$)	[0,1,2,3,4,5] [0,1,2,3,4,5] [0,1,2,3,4,5]	[314,622,49,77,61,77] [330,222,9,461,9,169] [171,14,213,623,87,92]	[0,1,2,3,4,5]	[200,200,200,200,200,200]
			T1-B3($\alpha=1$)	[0,1,2,3,4,5] [0,1,2,3,4,5] [0,1,2,3,4,5]	[85,341,246,32,67,429] [43,110,578,30,351,88] [521,237,70,187,130,55]	[0,1,2,3,4,5]	[200,200,200,200,200,200]
			T1-B4($\alpha=5$)	[0,1,2,3,4,5] [0,1,2,3,4,5] [0,1,2,3,4,5]	[137,357,433,124,103,46] [216,162,166,157,125,374] [350,218,236,119,150,127]	[0,1,2,3,4,5]	[200,200,200,200,200,200]
		T2-A Domain Shift + No Label Shift	T2-A1	[0,1,2,3,4,5] [0,1,2,3,4,5] [0,1,2,3,4,5]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[0,1,2,3,4,5]	[200,200,200,200,200,200]
		T2-A Domain Shift + Label Shift (Open-set)	T2-A2	[0,1,2] [0,1,2] [0,1,2]	[200,200,200] [200,200,200] [200,200,200]	[2,3]	[200,200]
			T2-A3	[0,1,2] [0,1,2] [0,1,2]	[200,200,200] [200,200,200] [200,200,200]	[2,3,4]	[200,200,200]
			T2-A4	[0,1,2] [0,1,2] [0,1,2]	[200,200,200] [200,200,200] [200,200,200]	[2,3,4,5]	[200,200,200,200]
			T2-A5	[0,3] [1,4] [2]	[200,200] [200,200] [200]	[3,4,5]	[200,200,200]
			T2-A6	[0,3] [1,3,4] [2,3]	[200,200] [200,200,200] [200,200]	[3,4,5]	[200,200,200]
			T2-A7	[0,3,4] [1,3,4] [2,3,4]	[200,200,200] [200,200,200] [200,200,200]	[3,4,5]	[200,200,200]
			T2-A8	[0,3,4] [1,3,4] [2,3,4]	[200,200,200] [200,200,200] [200,200,200]	[3,4,5]	[200,200,200]
			T2-A9	[0,3,4] [0,1,3,4] [0,2,3,4]	[200,200,200] [200,200,200,200] [200,200,200,200]	[3,4,5]	[200,200,200]
			T2-A10	[0,1,3,4]	[200,200,200,200]	[3,4,5]	[200,200,200]

				[0,1,3,4] [0,1,2,3,4]	[200,200,200,200] [200,200,200,200,200]			
			T2-A11	[0,1,2,3,4] [0,1,2,3,4] [0,1,2,3,4]	[200,200,200,200,200] [200,200,200,200,200] [200,200,200,200,200]	[3,4,5]	[200,200,200]	
			T2-B Domain Shift + Label Shift (Closed-set)	T2-B1($\alpha=0.1$)	[0,1,2,3,4,5] [0,1,2,3,4,5] [0,1,2,3,4,5]	[1,1,341,3,19,535] [126,20,1,733,18,2] [672,1,1,5,220,1]	[0,1,2,3,4,5]	[150,150,150,150,150,150]
		T2-B2($\alpha=0.5$)		[0,1,2,3,4,5] [0,1,2,3,4,5] [0,1,2,3,4,5]	[314,622,49,77,61,77] [330,222,9,461,9,169] [171,14,213,623,87,92]	[0,1,2,3,4,5]	[200,200,200,200,200,200]	
		T2-B3($\alpha=1$)		[0,1,2,3,4,5] [0,1,2,3,4,5] [0,1,2,3,4,5]	[85,341,246,32,67,429] [43,110,578,30,351,88] [521,237,70,187,130,55]	[0,1,2,3,4,5]	[200,200,200,200,200,200]	
		T2-B4($\alpha=5$)		[0,1,2,3,4,5] [0,1,2,3,4,5] [0,1,2,3,4,5]	[137,357,433,124,103,46] [216,162,166,157,125,374] [350,218,236,119,150,127]	[0,1,2,3,4,5]	[200,200,200,200,200,200]	
		T3-A Domain Shift + No Label Shift		T3-A1	[0,1,2,3,4,5] [0,1,2,3,4,5] [0,1,2,3,4,5]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[0,1,2,3,4,5]	[200,200,200,200,200,200]
				T3-A Domain Shift + Label Shift (Open-set)	T3-A2	[0,1,2] [0,1,2] [0,1,2]	[200,200,200] [200,200,200] [200,200,200]	[2,3]
			T3-A3		[0,1,2] [0,1,2] [0,1,2]	[200,200,200] [200,200,200] [200,200,200]	[2,3,4]	[200,200,200]
			T3-A4		[0,1,2] [0,1,2] [0,1,2]	[200,200,200] [200,200,200] [200,200,200]	[2,3,4,5]	[200,200,200,200]
			T3-A5		[0,3] [1,4] [2]	[200,200] [200,200] [200]	[3,4,5]	[200,200,200]
			T3-A6		[0,3] [1,3,4] [2,3]	[200,200] [200,200,200] [200,200]	[3,4,5]	[200,200,200]
			T3-A7		[0,3,4] [1,3,4] [2,3,4]	[200,200,200] [200,200,200] [200,200,200]	[3,4,5]	[200,200,200]
			T3-A8		[0,3,4]	[200,200,200]	[3,4,5]	[200,200,200]

				[1,3,4] [2,3,4]	[200,200,200] [200,200,200]		
			T3-A9	[0,3,4] [0,1,3,4] [0,2,3,4]	[200,200,200] [200,200,200,200] [200,200,200,200]	[3,4,5]	[200,200,200]
			T3-A10	[0,1,3,4] [0,1,3,4] [0,1,2,3,4]	[200,200,200,200] [200,200,200,200] [200,200,200,200,200]	[3,4,5]	[200,200,200]
			T3-A11	[0,1,2,3,4] [0,1,2,3,4] [0,1,2,3,4]	[200,200,200,200,200] [200,200,200,200,200] [200,200,200,200,200]	[3,4,5]	[200,200,200]
		T3-B Domain Shift + Label Shift (Closed-set)	T3-B1($\alpha=0.1$)	[0,1,2,3,4,5] [0,1,2,3,4,5] [0,1,2,3,4,5]	[1,1,341,3,19,535] [126,20,1,733,18,2] [672,1,1,5,220,1]	[0,1,2,3,4,5]	[150,150,150,150,150,150]
			T3-B2($\alpha=0.5$)	[0,1,2,3,4,5] [0,1,2,3,4,5] [0,1,2,3,4,5]	[314,622,49,77,61,77] [330,222,9,461,9,169] [171,14,213,623,87,92]	[0,1,2,3,4,5]	[200,200,200,200,200,200]
			T3-B3($\alpha=1$)	[0,1,2,3,4,5] [0,1,2,3,4,5] [0,1,2,3,4,5]	[85,341,246,32,67,429] [43,110,578,30,351,88] [521,237,70,187,130,55]	[0,1,2,3,4,5]	[200,200,200,200,200,200]
			T3-B4($\alpha=5$)	[0,1,2,3,4,5] [0,1,2,3,4,5] [0,1,2,3,4,5]	[137,357,433,124,103,46] [216,162,166,157,125,374] [350,218,236,119,150,127]	[0,1,2,3,4,5]	[200,200,200,200,200,200]
[30 Hz, 35 Hz, 40 Hz]	45 Hz	T4-A Domain Shift + No Label Shift	T4-A1	[0,1,2,3,4,5] [0,1,2,3,4,5] [0,1,2,3,4,5]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[0,1,2,3,4,5]	[200,200,200,200,200,200]
		T4-A Domain Shift + Label Shift (Open-set)	T4-A2	[0,1,2] [0,1,2] [0,1,2]	[200,200,200] [200,200,200] [200,200,200]	[2,3]	[200,200]
			T4-A3	[0,1,2] [0,1,2] [0,1,2]	[200,200,200] [200,200,200] [200,200,200]	[2,3,4]	[200,200,200]
			T4-A4	[0,1,2] [0,1,2] [0,1,2]	[200,200,200] [200,200,200] [200,200,200]	[2,3,4,5]	[200,200,200,200]
			T4-A5	[0,3] [1,4] [2]	[200,200] [200,200] [200]	[3,4,5]	[200,200,200]
			T4-A6	[0,3]	[200,200]	[3,4,5]	[200,200,200]

				[1,3,4] [2,3]	[200,200,200] [200,200]		
			T4-A7	[0,3,4] [1,3,4] [2,3,4]	[200,200,200] [200,200,200] [200,200,200]	[3,4,5]	[200,200,200]
			T4-A8	[0,3,4] [1,3,4] [2,3,4]	[200,200,200] [200,200,200] [200,200,200]	[3,4,5]	[200,200,200]
			T4-A9	[0,3,4] [0,1,3,4] [0,2,3,4]	[200,200,200] [200,200,200,200] [200,200,200,200]	[3,4,5]	[200,200,200]
			T4-A10	[0,1,3,4] [0,1,3,4] [0,1,2,3,4]	[200,200,200,200] [200,200,200,200] [200,200,200,200,200]	[3,4,5]	[200,200,200]
			T4-A11	[0,1,2,3,4] [0,1,2,3,4] [0,1,2,3,4]	[200,200,200,200,200] [200,200,200,200,200] [200,200,200,200,200]	[3,4,5]	[200,200,200]
		T4-B Domain Shift + Label Shift (Closed-set)	T4-B1($\alpha=0.1$)	[0,1,2,3,4,5] [0,1,2,3,4,5] [0,1,2,3,4,5]	[1,1,341,3,19,535] [126,20,1,733,18,2] [672,1,1,5,220,1]	[0,1,2,3,4,5]	[150,150,150,150,150,150]
			T4-B2($\alpha=0.5$)	[0,1,2,3,4,5] [0,1,2,3,4,5] [0,1,2,3,4,5]	[314,622,49,77,61,77] [330,222,9,461,9,169] [171,14,213,623,87,92]	[0,1,2,3,4,5]	[200,200,200,200,200,200]
			T4-B3($\alpha=1$)	[0,1,2,3,4,5] [0,1,2,3,4,5] [0,1,2,3,4,5]	[85,341,246,32,67,429] [43,110,578,30,351,88] [521,237,70,187,130,55]	[0,1,2,3,4,5]	[200,200,200,200,200,200]
			T4-B4($\alpha=5$)	[0,1,2,3,4,5] [0,1,2,3,4,5] [0,1,2,3,4,5]	[137,357,433,124,103,46] [216,162,166,157,125,374] [350,218,236,119,150,127]	[0,1,2,3,4,5]	[200,200,200,200,200,200]

(b) LW

Source Domains	Target Domain	Task Type	Task Name	Source classes	Source label Num.	Target classes	Target Num.
[2 Nm, 4 Nm, 6 Nm]	8 Nm	T1-A Domain Shift + No Label Shift	T1-A1	[0,1,2,3] [0,1,2,3] [0,1,2,3]	[200,200,200,200] [200,200,200,200] [200,200,200,200]	[0,1,2,3]	[200,200,200,200]
		T1-A Domain Shift + Label Shift (Open-set)	T1-A2	[0,1] [0,1] [0,1]	[200,200] [200,200] [200,200]	[1]	[200]
			T1-A3	[0,1] [0,1] [0,1]	[200,200] [200,200] [200,200]	[1,2]	[200,200]
			T1-A4	[0,1] [0,1] [0,1]	[200,200] [200,200] [200,200]	[1,2,3]	[200,200,200]
			T1-A5	[1] [2] [3]	[200] [200] [200]	[0,1,2,3]	[200,200,200,200]
			T1-A6	[1] [1,2] [1,3]	[200] [200,200] [200,200]	[0,1,2,3]	[200,200,200,200]
			T1-A7	[1,2] [1,2] [1,2,3]	[200,200] [200,200] [200,200,200]	[0,1,2,3]	[200,200,200,200]
			T1-A8	[1,2,3] [1,2,3] [1,2,3]	[200,200,200] [200,200,200] [200,200,200]	[0,1,2,3]	[200,200,200,200]
			T1-A9	[0,3] [1,3] [2,3]	[200,200] [200,200] [200,200]	[3]	[200]
			T1-A10	[0,3] [0,1,3] [0,2,3]	[200,200] [200,200,200] [200,200,200]	[3]	[200]
			T1-A11	[0,1,3] [0,1,3] [0,1,2,3]	[200,200,200] [200,200,200] [200,200,200,200]	[3]	[200]
			T1-A12	[0,1,2,3] [0,1,2,3]	[200,200,200,200] [200,200,200,200]	[3]	[200]

		T1-B Domain Shift + Label Shift (Closed-set)		[0,1,2,3]	[200,200,200,200]		
			T1-B1($\alpha=0.1$)	[0,1,2,3] [0,1,2,3] [0,1,2,3]	[162,3,45,190] [235,1,163,1] [1,339,1,59]	[0,1,2,3]	[100,100,100,100]
			T1-B2($\alpha=0.5$)	[0,1,2,3] [0,1,2,3] [0,1,2,3]	[103,81,119,97] [75,2,14,309] [34,187,122,57]	[0,1,2,3]	[100,100,100,100]
			T1-B3($\alpha=1$)	[0,1,2,3] [0,1,2,3] [0,1,2,3]	[322,9,167,302] [273,251,192,84] [301,327,58,114]	[0,1,2,3]	[200,200,200,200]
			T1-B4($\alpha=5$)	[0,1,2,3] [0,1,2,3] [0,1,2,3]	[318,139,180,163] [184,158,289,169] [87,58,352,303]	[0,1,2,3]	[200,200,200,200]
		T2-A Domain Shift + No Label Shift	T2-A1	[0,1,2,3] [0,1,2,3] [0,1,2,3]	[200,200,200,200] [200,200,200,200] [200,200,200,200]	[0,1,2,3]	[200,200,200,200]
			T2-A2	[0,1] [0,1] [0,1]	[200,200] [200,200] [200,200]	[1]	[200]
			T2-A3	[0,1] [0,1] [0,1]	[200,200] [200,200] [200,200]	[1,2]	[200,200]
			T2-A4	[0,1] [0,1] [0,1]	[200,200] [200,200] [200,200]	[1,2,3]	[200,200,200]
			T2-A5	[1] [2] [3]	[200] [200] [200]	[0,1,2,3]	[200,200,200,200]
			T2-A6	[1] [1,2] [1,3]	[200] [200,200] [200,200]	[0,1,2,3]	[200,200,200,200]
			T2-A7	[1,2] [1,2] [1,2,3]	[200,200] [200,200] [200,200,200]	[0,1,2,3]	[200,200,200,200]
			T2-A8	[1,2,3] [1,2,3] [1,2,3]	[200,200,200] [200,200,200] [200,200,200]	[0,1,2,3]	[200,200,200,200]
			T2-A9	[0,3] [1,3]	[200,200] [200,200]	[3]	[200]
[2 Nm, 4 Nm, 8 Nm]	6 Nm	T2-A Domain Shift + Label Shift (Open-set)					

				[2,3]	[200,200]		
			T2-A10	[0,3] [0,1,3] [0,2,3]	[200,200] [200,200,200] [200,200,200]	[3]	[200]
			T2-A11	[0,1,3] [0,1,3] [0,1,2,3]	[200,200,200] [200,200,200] [200,200,200,200]	[3]	[200]
			T2-A12	[0,1,2,3] [0,1,2,3] [0,1,2,3]	[200,200,200,200] [200,200,200,200] [200,200,200,200]	[3]	[200]
		T2-B Domain Shift + Label Shift (Closed-set)	T2-B1($\alpha=0.1$)	[0,1,2,3] [0,1,2,3] [0,1,2,3]	[162,3,45,190] [235,1,163,1] [1,339,1,59]	[0,1,2,3]	[100,100,100,100]
			T2-B2($\alpha=0.5$)	[0,1,2,3] [0,1,2,3] [0,1,2,3]	[103,81,119,97] [75,2,14,309] [34,187,122,57]	[0,1,2,3]	[100,100,100,100]
			T2-B3($\alpha=1$)	[0,1,2,3] [0,1,2,3] [0,1,2,3]	[322,9,167,302] [273,251,192,84] [301,327,58,114]	[0,1,2,3]	[200,200,200,200]
			T2-B4($\alpha=5$)	[0,1,2,3] [0,1,2,3] [0,1,2,3]	[318,139,180,163] [184,158,289,169] [87,58,352,303]	[0,1,2,3]	[200,200,200,200]
		T3-A Domain Shift + No Label Shift	T3-A1	[0,1,2,3] [0,1,2,3] [0,1,2,3]	[200,200,200,200] [200,200,200,200] [200,200,200,200]	[0,1,2,3]	[200,200,200,200]
			T3-A2	[0,1] [0,1] [0,1]	[200,200] [200,200] [200,200]	[1]	[200]
			T3-A3	[0,1] [0,1] [0,1]	[200,200] [200,200] [200,200]	[1,2]	[200,200]
			T3-A4	[0,1] [0,1] [0,1]	[200,200] [200,200] [200,200]	[1,2,3]	[200,200,200]
			T3-A5	[1] [2] [3]	[200] [200] [200]	[0,1,2,3]	[200,200,200,200]
			T3-A6	[1] [1,2]	[200] [200,200]	[0,1,2,3]	[200,200,200,200]

				[1,3]	[200,200]		
			T3-A7	[1,2]	[200,200]	[0,1,2,3]	[200,200,200,200]
				[1,2]	[200,200]		
				[1,2,3]	[200,200,200]		
			T3-A8	[1,2,3]	[200,200,200]	[0,1,2,3]	[200,200,200,200]
				[1,2,3]	[200,200,200]		
				[1,2,3]	[200,200,200]		
			T3-A9	[0,3]	[200,200]	[3]	[200]
				[1,3]	[200,200]		
				[2,3]	[200,200]		
			T3-A10	[0,3]	[200,200]	[3]	[200]
				[0,1,3]	[200,200,200]		
				[0,2,3]	[200,200,200]		
			T3-A11	[0,1,3]	[200,200,200]	[3]	[200]
				[0,1,3]	[200,200,200]		
				[0,1,2,3]	[200,200,200,200]		
			T3-A12	[0,1,2,3]	[200,200,200,200]	[3]	[200]
				[0,1,2,3]	[200,200,200,200]		
				[0,1,2,3]	[200,200,200,200]		
		T3-B Domain Shift + Label Shift (Closed-set)	T3-B1($\alpha=0.1$)	[0,1,2,3]	[162,3,45,190]	[0,1,2,3]	[100,100,100,100]
				[0,1,2,3]	[235,1,163,1]		
				[0,1,2,3]	[1,339,1,59]		
			T3-B2($\alpha=0.5$)	[0,1,2,3]	[103,81,119,97]	[0,1,2,3]	[100,100,100,100]
				[0,1,2,3]	[75,2,14,309]		
				[0,1,2,3]	[34,187,122,57]		
			T3-B3($\alpha=1$)	[0,1,2,3]	[322,9,167,302]	[0,1,2,3]	[200,200,200,200]
				[0,1,2,3]	[273,251,192,84]		
				[0,1,2,3]	[301,327,58,114]		
			T3-B4($\alpha=5$)	[0,1,2,3]	[318,139,180,163]	[0,1,2,3]	[200,200,200,200]
				[0,1,2,3]	[184,158,289,169]		
				[0,1,2,3]	[87,58,352,303]		
[4 Nm, 6 Nm, 8 Nm]	2 Nm	T4-A Domain Shift + No Label Shift	T4-A1	[0,1,2,3]	[200,200,200,200]	[0,1,2,3]	[200,200,200,200]
				[0,1,2,3]	[200,200,200,200]		
				[0,1,2,3]	[200,200,200,200]		
		T4-A Domain Shift + Label Shift (Open-set)	T4-A2	[0,1]	[200,200]	[1]	[200]
				[0,1]	[200,200]		
			T4-A3	[0,1]	[200,200]	[1,2]	[200,200]
				[0,1]	[200,200]		

				[0,1]	[200,200]		
			T4-A4	[0,1] [0,1] [0,1]	[200,200] [200,200] [200,200]	[1,2,3]	[200,200,200]
			T4-A5	[1] [2] [3]	[200] [200] [200]	[0,1,2,3]	[200,200,200,200]
			T4-A6	[1] [1,2] [1,3]	[200] [200,200] [200,200]	[0,1,2,3]	[200,200,200,200]
			T4-A7	[1,2] [1,2] [1,2,3]	[200,200] [200,200] [200,200,200]	[0,1,2,3]	[200,200,200,200]
			T4-A8	[1,2,3] [1,2,3] [1,2,3]	[200,200,200] [200,200,200] [200,200,200]	[0,1,2,3]	[200,200,200,200]
			T4-A9	[0,3] [1,3] [2,3]	[200,200] [200,200] [200,200]	[3]	[200]
			T4-A10	[0,3] [0,1,3] [0,2,3]	[200,200] [200,200,200] [200,200,200]	[3]	[200]
			T4-A11	[0,1,3] [0,1,3] [0,1,2,3]	[200,200,200] [200,200,200] [200,200,200,200]	[3]	[200]
			T4-A12	[0,1,2,3] [0,1,2,3] [0,1,2,3]	[200,200,200,200] [200,200,200,200] [200,200,200,200]	[3]	[200]
		T4-B Domain Shift + Label Shift (Closed-set)	T4-B1($\alpha=0.1$)	[0,1,2,3] [0,1,2,3] [0,1,2,3]	[162,3,45,190] [235,1,163,1] [1,339,1,59]	[0,1,2,3]	[100,100,100,100]
			T4-B2($\alpha=0.5$)	[0,1,2,3] [0,1,2,3] [0,1,2,3]	[103,81,119,97] [75,2,14,309] [34,187,122,57]	[0,1,2,3]	[100,100,100,100]
			T4-B3($\alpha=1$)	[0,1,2,3] [0,1,2,3] [0,1,2,3]	[322,9,167,302] [273,251,192,84] [301,327,58,114]	[0,1,2,3]	[200,200,200,200]
			T4-B4($\alpha=5$)	[0,1,2,3] [0,1,2,3]	[318,139,180,163] [184,158,289,169]	[0,1,2,3]	[200,200,200,200]

				[0,1,2,3]	[87,58,352,303]		
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(c) KAT/PU

Source Domains	Target Domain	Task Type	Task Name	Source classes	Source label Num.	Target classes	Target Num.
[0 hp, 1 hp, 2 hp]	3 hp	T1-A Domain Shift + No Label Shift	T1-A1	[0,1,2,3,4,5,6,7,8,9,10,11] [0,1,2,3,4,5,6,7,8,9,10,11] [0,1,2,3,4,5,6,7,8,9,10,11]	[200,200,200,200,200,200,200,200,200,200,200,200] [200,200,200,200,200,200,200,200,200,200,200,200] [200,200,200,200,200,200,200,200,200,200,200,200]	[0,1,2,3,4,5,6,7,8,9,10,11]	[200,200,200,200,200,200,200,200,200,200,200,200]
		T1-A Domain Shift + Label Shift (Open-set)	T1-A2	[0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7]	[200,200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[4,5,6,7,8]	[200,200,200,200,200]
			T1-A3	[0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7]	[200,200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[4,5,6,7,8,9]	[200,200,200,200,200,200]
			T1-A4	[0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7]	[200,200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[4,5,6,7,8,9,10]	[200,200,200,200,200,200,200]
			T1-A5	[0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7]	[200,200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[4,5,6,7,8,9,10,11]	[200,200,200,200,200,200,200,200]
			T1-A6	[0,3,4] [1,5,6] [2,7,8]	[200,200,200] [200,200,200] [200,200,200]	[3,4,5,6,7,8,9,10,11]	[200,200,200,200,200,200,200,200]
			T1-A7	[0,3,4] [1,3,5,6] [2,3,7,8]	[200,200,200] [200,200,200,200] [200,200,200,200]	[3,4,5,6,7,8,9,10,11]	[200,200,200,200,200,200,200,200]
			T1-A8	[0,3,4] [1,3,4,5,6] [2,3,4,7,8]	[200,200,200] [200,200,200,200,200] [200,200,200,200,200]	[3,4,5,6,7,8,9,10,11]	[200,200,200,200,200,200,200,200]
			T1-A9	[0,3,4,5] [1,3,4,5,6] [2,3,4,5,7,8]	[200,200,200] [200,200,200,200,200] [200,200,200,200,200,200]	[3,4,5,6,7,8,9,10,11]	[200,200,200,200,200,200,200,200]
			T1-A10	[0,3,4,5,6] [1,3,4,5,6] [2,3,4,5,6,7,8]	[200,200,200,200,200] [200,200,200,200,200] [200,200,200,200,200,200,200]	[3,4,5,6,7,8,9,10,11]	[200,200,200,200,200,200,200,200]
			T1-A11	[0,3,4,5,6,7] [1,3,4,5,6,7]	[200,200,200,200,200,200] [200,200,200,200,200,200]	[3,4,5,6,7,8,9,10,11]	[200,200,200,200,200,200,200,200]

				[2,3,4,5,6,7,8]	[200,200,200,200,200,200,200]		
			T1-A12	[0,3,4,5,6,7,8]	[200,200,200,200,200,200,200]	[3,4,5,6,7,8,9,10,11]	[200,200,200,200,200,200,200,200]
				[1,3,4,5,6,7,8]	[200,200,200,200,200,200,200]		
				[2,3,4,5,6,7,8]	[200,200,200,200,200,200,200]		
				[2,3,4,5,6,7,8]	[200,200,200,200,200,200,200]		
			T1-A13	[0,1,5,6,7,8]	[200,200,200,200,200,200]	[5,6,7,8,9,10,11]	[200,200,200,200,200,200,200]
				[2,3,5,6,7,8]	[200,200,200,200,200,200]		
				[4,5,6,7,8]	[200,200,200,200,200]		
			T1-A14	[0,1,5,6,7,8]	[200,200,200,200,200,200]	[5,6,7,8,9,10,11]	[200,200,200,200,200,200,200]
				[0,2,3,5,6,7,8]	[200,200,200,200,200,200]		
				[0,4,5,6,7,8]	[200,200,200,200,200,200]		
			T1-A15	[0,1,2,5,6,7,8]	[200,200,200,200,200,200]	[5,6,7,8,9,10,11]	[200,200,200,200,200,200,200]
				[0,2,3,5,6,7,8]	[200,200,200,200,200,200]		
				[0,2,4,5,6,7,8]	[200,200,200,200,200,200]		
			T1-A16	[0,1,2,5,6,7,8]	[200,200,200,200,200,200]	[5,6,7,8,9,10,11]	[200,200,200,200,200,200,200]
				[0,1,2,3,5,6,7,8]	[200,200,200,200,200,200,200]		
				[0,1,2,4,5,6,7,8]	[200,200,200,200,200,200,200]		
			T1-A17	[0,1,2,3,5,6,7,8]	[200,200,200,200,200,200,200]	[5,6,7,8,9,10,11]	[200,200,200,200,200,200,200]
				[0,1,2,3,5,6,7,8]	[200,200,200,200,200,200,200]		
				[0,1,2,3,4,5,6,7,8]	[200,200,200,200,200,200,200,200]		
			T1-A18	[0,1,2,3,4,5,6,7,8]	[200,200,200,200,200,200,200]	[5,6,7,8,9,10,11]	[200,200,200,200,200,200,200]
				[0,1,2,3,4,5,6,7,8]	[200,200,200,200,200,200,200]		
				[0,1,2,3,4,5,6,7,8]	[200,200,200,200,200,200,200,200]		
		T1-B Domain Shift + Label Shift (Closed-set)	T1-B1($\alpha=0.1$)	[0,1,2,3,4,5,6,7,8,9,10,11]	[1,1,1,195,30,2,964,1,1,1,1,2]	[0,1,2,3,4,5,6,7,8,9,10,11]	[100,100,100,100,100,100,100,100,100,100,100]
				[0,1,2,3,4,5,6,7,8,9,10,11]	[452,1,293,1,2,1,103,1,1,343,1,1]		
				[0,1,2,3,4,5,6,7,8,9,10,11]	[1,1,2,1,431,687,8,64,1,2,1,1]		
			T1-B2($\alpha=0.5$)	[0,1,2,3,4,5,6,7,8,9,10,11]	[7,1,152,969,17,294,178,78,245,25,185,249]	[0,1,2,3,4,5,6,7,8,9,10,11]	[200,200,200,200,200,200,200,200,200,200,200]
				[0,1,2,3,4,5,6,7,8,9,10,11]	[707,675,29,78,9,1,30,1,368,64,262,176]		
				[0,1,2,3,4,5,6,7,8,9,10,11]	[173,482,62,68,169,154,886,3,284,115,1,3]		
			T1-B3($\alpha=1$)	[0,1,2,3,4,5,6,7,8,9,10,11]	[299,616,400,158,116,563,200,11,301,450,327,159]	[0,1,2,3,4,5,6,7,8,9,10,11]	[300,300,300,300,300,300,300,300,300,300,300]
				[0,1,2,3,4,5,6,7,8,9,10,11]	[125,296,314,179,209,492,682,191,201,231,249,431]		
				[0,1,2,3,4,5,6,7,8,9,10,11]	[367,13,42,77,194,712,129,971,351,61,260,423]		
			T1-B4($\alpha=5$)	[0,1,2,3,4,5,6,7,8,9,10,11]	[269,109,423,311,146,428,158,345,214,615,253,329]	[0,1,2,3,4,5,6,7,8,9,10,11]	[300,300,300,300,300,300,300,300,300,300,300]
				[0,1,2,3,4,5,6,7,8,9,10,11]	[231,220,211,224,533,511,517,168,327,167,179,312]		
				[0,1,2,3,4,5,6,7,8,9,10,11]	[154,63,101,365,576,304,181,273,297,471,440,375]		

			T2-A13	[0,1,5,6,7,8] [2,3,5,6,7,8] [4,5,6,7,8]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200]	[5,6,7,8,9,10,11]	[200,200,200,200,200,200,200]
			T2-A14	[0,1,5,6,7,8] [0,2,3,5,6,7,8] [0,4,5,6,7,8]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[5,6,7,8,9,10,11]	[200,200,200,200,200,200,200]
			T2-A15	[0,1,2,5,6,7,8] [0,2,3,5,6,7,8] [0,2,4,5,6,7,8]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[5,6,7,8,9,10,11]	[200,200,200,200,200,200,200]
			T2-A16	[0,1,2,5,6,7,8] [0,1,2,3,5,6,7,8] [0,1,2,4,5,6,7,8]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[5,6,7,8,9,10,11]	[200,200,200,200,200,200,200]
			T2-A17	[0,1,2,3,5,6,7,8] [0,1,2,3,5,6,7,8] [0,1,2,3,4,5,6,7,8]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200,200]	[5,6,7,8,9,10,11]	[200,200,200,200,200,200,200]
			T2-A18	[0,1,2,3,4,5,6,7,8] [0,1,2,3,4,5,6,7,8] [0,1,2,3,4,5,6,7,8]	[200,200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[5,6,7,8,9,10,11]	[200,200,200,200,200,200,200]
		T2-B Domain Shift + Label Shift (Closed-set)	T2-B1($\alpha=0.1$)	[0,1,2,3,4,5,6,7,8,9,10,11] [0,1,2,3,4,5,6,7,8,9,10,11] [0,1,2,3,4,5,6,7,8,9,10,11]	[1,1,1,195,30,2,964,1,1,1,1,2] [452,1,293,1,2,1,103,1,1,343,1,1] [1,1,2,1,431,687,8,64,1,2,1,1]	[0,1,2,3,4,5,6,7,8,9,10,11]	[100,100,100,100,100,100,100,100,100,100,100]
			T2-B2($\alpha=0.5$)	[0,1,2,3,4,5,6,7,8,9,10,11] [0,1,2,3,4,5,6,7,8,9,10,11] [0,1,2,3,4,5,6,7,8,9,10,11]	[7,1,152,969,17,294,178,78,245,25,185,249] [707,675,29,78,9,1,30,1,368,64,262,176] [173,482,62,68,169,154,886,3,284,115,1,3]	[0,1,2,3,4,5,6,7,8,9,10,11]	[200,200,200,200,200,200,200,200,200,200,200]
			T2-B3($\alpha=1$)	[0,1,2,3,4,5,6,7,8,9,10,11] [0,1,2,3,4,5,6,7,8,9,10,11] [0,1,2,3,4,5,6,7,8,9,10,11]	[299,616,400,158,116,563,200,11,301,450,327,159] [125,296,314,179,209,492,682,191,201,231,249,431] [367,13,42,77,194,712,129,971,351,61,260,423]	[0,1,2,3,4,5,6,7,8,9,10,11]	[300,300,300,300,300,300,300,300,300,300,300]
			T2-B4($\alpha=5$)	[0,1,2,3,4,5,6,7,8,9,10,11] [0,1,2,3,4,5,6,7,8,9,10,11] [0,1,2,3,4,5,6,7,8,9,10,11]	[269,109,423,311,146,428,158,345,214,615,253,329] [231,220,211,224,533,511,517,168,327,167,179,312] [154,63,101,365,576,304,181,273,297,471,440,375]	[0,1,2,3,4,5,6,7,8,9,10,11]	[300,300,300,300,300,300,300,300,300,300,300]
[0 hp, 2 hp, 3 hp]	1 hp	T3-A Domain Shift + No Label Shift	T3-A1	[0,1,2,3,4,5,6,7,8,9,10,11] [0,1,2,3,4,5,6,7,8,9,10,11] [0,1,2,3,4,5,6,7,8,9,10,11]	[200,200,200,200,200,200,200,200,200,200,200] [200,200,200,200,200,200,200,200,200,200,200] [200,200,200,200,200,200,200,200,200,200,200]	[0,1,2,3,4,5,6,7,8,9,10,11]	[200,200,200,200,200,200,200,200,200,200,200]
		T3-A Domain Shift + Label Shift (Open-set)	T3-A2	[0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7]	[200,200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[4,5,6,7,8]	[200,200,200,200,200]
			T3-A3	[0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7]	[200,200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[4,5,6,7,8,9]	[200,200,200,200,200,200]

		T3-A4	[0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7]	[200,200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[4,5,6,7,8,9,10]	[200,200,200,200,200,200,200]
		T3-A5	[0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7]	[200,200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[4,5,6,7,8,9,10,11]	[200,200,200,200,200,200,200,200]
		T3-A6	[0,3,4] [1,5,6] [2,7,8]	[200,200,200] [200,200,200] [200,200,200]	[3,4,5,6,7,8,9,10,11]	[200,200,200,200,200,200,200,200]
		T3-A7	[0,3,4] [1,3,5,6] [2,3,7,8]	[200,200,200] [200,200,200,200] [200,200,200,200]	[3,4,5,6,7,8,9,10,11]	[200,200,200,200,200,200,200,200]
		T3-A8	[0,3,4] [1,3,4,5,6] [2,3,4,7,8]	[200,200,200] [200,200,200,200,200] [200,200,200,200,200]	[3,4,5,6,7,8,9,10,11]	[200,200,200,200,200,200,200,200]
		T3-A9	[0,3,4,5] [1,3,4,5,6] [2,3,4,5,7,8]	[200,200,200] [200,200,200,200,200] [200,200,200,200,200,200]	[3,4,5,6,7,8,9,10,11]	[200,200,200,200,200,200,200,200]
		T3-A10	[0,3,4,5,6] [1,3,4,5,6] [2,3,4,5,6,7,8]	[200,200,200,200,200] [200,200,200,200,200] [200,200,200,200,200,200]	[3,4,5,6,7,8,9,10,11]	[200,200,200,200,200,200,200,200]
		T3-A11	[0,3,4,5,6,7] [1,3,4,5,6,7] [2,3,4,5,6,7,8]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200,200]	[3,4,5,6,7,8,9,10,11]	[200,200,200,200,200,200,200,200]
		T3-A12	[0,3,4,5,6,7,8] [1,3,4,5,6,7,8] [2,3,4,5,6,7,8]	[200,200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[3,4,5,6,7,8,9,10,11]	[200,200,200,200,200,200,200,200]
		T3-A13	[0,1,5,6,7,8] [2,3,5,6,7,8] [4,5,6,7,8]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200]	[5,6,7,8,9,10,11]	[200,200,200,200,200,200,200]
		T3-A14	[0,1,5,6,7,8] [0,2,3,5,6,7,8] [0,4,5,6,7,8]	[200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200]	[5,6,7,8,9,10,11]	[200,200,200,200,200,200,200]
		T3-A15	[0,1,2,5,6,7,8] [0,2,3,5,6,7,8] [0,2,4,5,6,7,8]	[200,200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[5,6,7,8,9,10,11]	[200,200,200,200,200,200,200]
		T3-A16	[0,1,2,5,6,7,8] [0,1,2,3,5,6,7,8] [0,1,2,4,5,6,7,8]	[200,200,200,200,200,200,200] [200,200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[5,6,7,8,9,10,11]	[200,200,200,200,200,200,200]

[1 hp, 2 hp, 3 hp]	0 hp	T3-A Domain Shift + No Label Shift	T3-A17	[0,1,2,3,5,6,7,8] [0,1,2,3,5,6,7,8] [0,1,2,3,4,5,6,7,8]	[200,200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[5,6,7,8,9,10,11]	[200,200,200,200,200,200,200]
			T3-A18	[0,1,2,3,4,5,6,7,8] [0,1,2,3,4,5,6,7,8] [0,1,2,3,4,5,6,7,8]	[200,200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[5,6,7,8,9,10,11]	[200,200,200,200,200,200,200]
			T3-B Domain Shift + Label Shift (Closed-set)	T3-B1($\alpha=0.1$)	[0,1,2,3,4,5,6,7,8,9,10,11] [0,1,2,3,4,5,6,7,8,9,10,11] [0,1,2,3,4,5,6,7,8,9,10,11]	[1,1,1,195,30,2,964,1,1,1,1,2] [452,1,293,1,2,1,103,1,1,343,1,1] [1,1,2,1,431,687,8,64,1,2,1,1]	[0,1,2,3,4,5,6,7,8,9,10,11]
		T3-B2($\alpha=0.5$)		[0,1,2,3,4,5,6,7,8,9,10,11] [0,1,2,3,4,5,6,7,8,9,10,11] [0,1,2,3,4,5,6,7,8,9,10,11]	[7,1,152,969,17,294,178,78,245,25,185,249] [707,675,29,78,9,1,30,1,368,64,262,176] [173,482,62,68,169,154,886,3,284,115,1,3]	[0,1,2,3,4,5,6,7,8,9,10,11]	[200,200,200,200,200,200,200,200,200,200,200]
		T3-B3($\alpha=1$)		[0,1,2,3,4,5,6,7,8,9,10,11] [0,1,2,3,4,5,6,7,8,9,10,11] [0,1,2,3,4,5,6,7,8,9,10,11]	[299,616,400,158,116,563,200,11,301,450,327,159] [125,296,314,179,209,492,682,191,201,231,249,431] [367,13,42,77,194,712,129,971,351,61,260,423]	[0,1,2,3,4,5,6,7,8,9,10,11]	[300,300,300,300,300,300,300,300,300,300,300]
		T3-B4($\alpha=5$)		[0,1,2,3,4,5,6,7,8,9,10,11] [0,1,2,3,4,5,6,7,8,9,10,11] [0,1,2,3,4,5,6,7,8,9,10,11]	[269,109,423,311,146,428,158,345,214,615,253,329] [231,220,211,224,533,511,517,168,327,167,179,312] [154,63,101,365,576,304,181,273,297,471,440,375]	[0,1,2,3,4,5,6,7,8,9,10,11]	[300,300,300,300,300,300,300,300,300,300,300]
		T4-A Domain Shift + Label Shift (Open-set)	T4-A1	[0,1,2,3,4,5,6,7,8,9,10,11] [0,1,2,3,4,5,6,7,8,9,10,11] [0,1,2,3,4,5,6,7,8,9,10,11]	[200,200,200,200,200,200,200,200,200,200,200] [200,200,200,200,200,200,200,200,200,200,200] [200,200,200,200,200,200,200,200,200,200,200]	[0,1,2,3,4,5,6,7,8,9,10,11]	[200,200,200,200,200,200,200,200,200,200,200]
			T4-A2	[0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7]	[200,200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[4,5,6,7,8]	[200,200,200,200,200]
			T4-A3	[0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7]	[200,200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[4,5,6,7,8,9]	[200,200,200,200,200,200]
	T4-A4		[0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7]	[200,200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[4,5,6,7,8,9,10]	[200,200,200,200,200,200,200]	
	T4-A5		[0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7]	[200,200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[4,5,6,7,8,9,10,11]	[200,200,200,200,200,200,200,200]	
	T4-A6		[0,3,4] [1,5,6] [2,7,8]	[200,200,200] [200,200,200] [200,200,200]	[3,4,5,6,7,8,9,10,11]	[200,200,200,200,200,200,200,200]	
	T4-A7		[0,3,4] [1,3,5,6] [2,3,7,8]	[200,200,200] [200,200,200,200] [200,200,200,200]	[3,4,5,6,7,8,9,10,11]	[200,200,200,200,200,200,200,200]	

			T4-A8	[0,3,4] [1,3,4,5,6] [2,3,4,7,8]	[200,200,200] [200,200,200,200,200] [200,200,200,200,200]	[3,4,5,6,7,8,9,10,11]	[200,200,200,200,200,200,200,200]
			T4-A9	[0,3,4,5] [1,3,4,5,6] [2,3,4,5,7,8]	[200,200,200] [200,200,200,200,200] [200,200,200,200,200,200]	[3,4,5,6,7,8,9,10,11]	[200,200,200,200,200,200,200,200]
			T4-A10	[0,3,4,5,6] [1,3,4,5,6] [2,3,4,5,6,7,8]	[200,200,200,200,200] [200,200,200,200,200] [200,200,200,200,200,200]	[3,4,5,6,7,8,9,10,11]	[200,200,200,200,200,200,200,200]
			T4-A11	[0,3,4,5,6,7] [1,3,4,5,6,7] [2,3,4,5,6,7,8]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[3,4,5,6,7,8,9,10,11]	[200,200,200,200,200,200,200,200]
			T4-A12	[0,3,4,5,6,7,8] [1,3,4,5,6,7,8] [2,3,4,5,6,7,8]	[200,200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[3,4,5,6,7,8,9,10,11]	[200,200,200,200,200,200,200,200]
			T4-A13	[0,1,5,6,7,8] [2,3,5,6,7,8] [4,5,6,7,8]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200]	[5,6,7,8,9,10,11]	[200,200,200,200,200,200,200]
			T4-A14	[0,1,5,6,7,8] [0,2,3,5,6,7,8] [0,4,5,6,7,8]	[200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200]	[5,6,7,8,9,10,11]	[200,200,200,200,200,200,200]
			T4-A15	[0,1,2,5,6,7,8] [0,2,3,5,6,7,8] [0,2,4,5,6,7,8]	[200,200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[5,6,7,8,9,10,11]	[200,200,200,200,200,200,200]
			T4-A16	[0,1,2,5,6,7,8] [0,1,2,3,5,6,7,8] [0,1,2,4,5,6,7,8]	[200,200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[5,6,7,8,9,10,11]	[200,200,200,200,200,200,200]
			T4-A17	[0,1,2,3,5,6,7,8] [0,1,2,3,5,6,7,8] [0,1,2,3,4,5,6,7,8]	[200,200,200,200,200,200,200,200] [200,200,200,200,200,200,200,200] [200,200,200,200,200,200,200,200]	[5,6,7,8,9,10,11]	[200,200,200,200,200,200,200]
			T4-A18	[0,1,2,3,4,5,6,7,8] [0,1,2,3,4,5,6,7,8] [0,1,2,3,4,5,6,7,8]	[200,200,200,200,200,200,200,200,200] [200,200,200,200,200,200,200,200] [200,200,200,200,200,200,200,200]	[5,6,7,8,9,10,11]	[200,200,200,200,200,200,200]
		T4-B Domain Shift + Label Shift (Closed-set)	T4-B1($\alpha=0.1$)	[0,1,2,3,4,5,6,7,8,9,10,11] [0,1,2,3,4,5,6,7,8,9,10,11] [0,1,2,3,4,5,6,7,8,9,10,11]	[1,1,1,195,30,2,964,1,1,1,1,2] [452,1,293,1,2,1,103,1,1,343,1,1] [1,1,2,1,431,687,8,64,1,2,1,1]	[0,1,2,3,4,5,6,7,8,9,10,11]	[100,100,100,100,100,100,100,100,100,100,100]
			T4-B2($\alpha=0.5$)	[0,1,2,3,4,5,6,7,8,9,10,11] [0,1,2,3,4,5,6,7,8,9,10,11] [0,1,2,3,4,5,6,7,8,9,10,11]	[7,1,152,969,17,294,178,78,245,25,185,249] [707,675,29,78,9,1,30,1,368,64,262,176] [173,482,62,68,169,154,886,3,284,115,1,3]	[0,1,2,3,4,5,6,7,8,9,10,11]	[200,200,200,200,200,200,200,200,200,200,200]

			T4-B3($\alpha=1$)	[0,1,2,3,4,5,6,7,8,9,10,11]	[299,616,400,158,116,563,200,11,301,450,327,159]	[0,1,2,3,4,5,6,7,8,9,10,11]	[300,300,300,300,300,300,300,300,300,300,300]
				[0,1,2,3,4,5,6,7,8,9,10,11]	[125,296,314,179,209,492,682,191,201,231,249,431]		
				[0,1,2,3,4,5,6,7,8,9,10,11]	[367,13,42,77,194,712,129,971,351,61,260,423]		
			T4-B4($\alpha=5$)	[0,1,2,3,4,5,6,7,8,9,10,11]	[269,109,423,311,146,428,158,345,214,615,253,329]	[0,1,2,3,4,5,6,7,8,9,10,11]	[300,300,300,300,300,300,300,300,300,300,300]
				[0,1,2,3,4,5,6,7,8,9,10,11]	[231,220,211,224,533,511,517,168,327,167,179,312]		
				[0,1,2,3,4,5,6,7,8,9,10,11]	[154,63,101,365,576,304,181,273,297,471,440,375]		

(d) HUSTbearing

Target Domain	Task Type	Task Name	Source classes	Source label Num.	Target classes	Target Num.
3 hp	T1-A Domain Shift + No Label Shift	T1-A1	[0,1,2,3,4,5,6,7,8]	[200,200,200,200,200,200,200,200]	[0,1,2,3,4,5,6,7,8]	[200,200,200,200,200,200,200,200]
			[0,1,2,3,4,5,6,7,8]	[200,200,200,200,200,200,200,200]		
			[0,1,2,3,4,5,6,7,8]	[200,200,200,200,200,200,200,200]		
	T1-A Domain Shift + Label Shift (Open-set)	T1-A2	[0,1,2,3,4,5]	[200,200,200,200,200,200]	[3,4,5,6]	[200,200,200,200]
			[0,1,2,3,4,5]	[200,200,200,200,200,200]		
			[0,1,2,3,4,5]	[200,200,200,200,200,200]		
		T1-A3	[0,1,2,3,4,5]	[200,200,200,200,200,200]	[3,4,5,6,7]	[200,200,200,200,200]
			[0,1,2,3,4,5]	[200,200,200,200,200,200]		
			[0,1,2,3,4,5]	[200,200,200,200,200,200]		
		T1-A4	[0,1,2,3,4,5]	[200,200,200,200,200,200]	[3,4,5,6,7,8]	[200,200,200,200,200,200]
			[0,1,2,3,4,5]	[200,200,200,200,200,200]		
			[0,1,2,3,4,5]	[200,200,200,200,200,200]		
		T1-A5	[0,3,4]	[200,200,200]	[3,4,5,6,7,8]	[200,200,200,200,200,200]
			[1,5,6]	[200,200,200]		
			[2,7]	[200,200]		
		T1-A6	[0,3,4]	[200,200,200]	[3,4,5,6,7,8]	[200,200,200,200,200,200]
			[1,3,5,6]	[200,200,200,200]		
			[2,3,7]	[200,200,200]		
		T1-A7	[0,3,4]	[200,200,200]	[3,4,5,6,7,8]	[200,200,200,200,200,200]
			[1,3,4,5,6]	[200,200,200,200,200]		
			[2,3,4,7]	[200,200,200,200]		
		T1-A8	[0,3,4,5]	[200,200,200,200]	[3,4,5,6,7,8]	[200,200,200,200,200,200]
			[1,3,4,5,6]	[200,200,200,200,200]		
			[2,3,4,5,7]	[200,200,200,200,200]		
		T1-A9	[0,3,4,5,6]	[200,200,200,200,200]	[3,4,5,6,7,8]	[200,200,200,200,200,200]
			[1,3,4,5,6]	[200,200,200,200,200]		
			[2,3,4,5,6,7]	[200,200,200,200,200,200]		

		T1-A10	[0,3,4,5,6,7] [1,3,4,5,6,7] [2,3,4,5,6,7]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[3,4,5,6,7,8]	[200,200,200,200,200,200]
		T1-A11	[0,1,4,5,6,7] [2,4,5,6,7] [3,4,5,6,7]	[200,200,200,200,200,200] [200,200,200,200,200] [200,200,200,200,200]	[4,5,6,7,8]	[200,200,200,200,200]
		T1-A12	[0,1,4,5,6,7] [0,2,4,5,6,7] [0,3,4,5,6,7]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[4,5,6,7,8]	[200,200,200,200,200]
		T1-A13	[0,1,4,5,6,7] [0,1,2,4,5,6,7] [0,1,3,4,5,6,7]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[4,5,6,7,8]	[200,200,200,200,200]
		T1-A14	[0,1,2,4,5,6,7] [0,1,2,4,5,6,7] [0,1,2,3,4,5,6,7]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[4,5,6,7,8]	[200,200,200,200,200]
		T1-A15	[0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7]	[200,200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[4,5,6,7,8]	[200,200,200,200,200]
	T1-B Domain Shift + Label Shift (Closed-set)	T1-B1($\alpha=0.1$)	[0,1,2,3,4,5,6,7,8] [0,1,2,3,4,5,6,7,8] [0,1,2,3,4,5,6,7,8]	[1,214,1,507,1,1,1,13,161] [60,1,1,1,2,1,3,1,830] [43,2,823,1,2,1,23,1,4]	[0,1,2,3,4,5,6,7,8]	[100,100,100,100,100,100,100,100,100]
		T1-B2($\alpha=0.5$)	[0,1,2,3,4,5,6,7,8] [0,1,2,3,4,5,6,7,8] [0,1,2,3,4,5,6,7,8]	[45,93,86,158,129,840,13,47,389] [112,15,14,51,345,242,680,336,5] [915,2,72,50,232,129,344,36,20]	[0,1,2,3,4,5,6,7,8]	[200,200,200,200,200,200,200,200,200]
		T1-B3($\alpha=1$)	[0,1,2,3,4,5,6,7,8] [0,1,2,3,4,5,6,7,8] [0,1,2,3,4,5,6,7,8]	[561,142,248,370,40,822,174,200,143] [35,311,227,225,101,532,304,371,594] [33,322,203,274,518,402,500,210,238]	[0,1,2,3,4,5,6,7,8]	[300,300,300,300,300,300,300,300,300]
		T1-B4($\alpha=5$)	[0,1,2,3,4,5,6,7,8] [0,1,2,3,4,5,6,7,8] [0,1,2,3,4,5,6,7,8]	[624,428,344,257,224,154,200,291,178] [290,139,215,393,338,319,514,335,157] [451,397,272,170,415,276,264,305,150]	[0,1,2,3,4,5,6,7,8]	[300,300,300,300,300,300,300,300,300]
2 hp	Domain Shift + No Label Shift	T2-A1	[0,1,2,3,4,5,6,7,8] [0,1,2,3,4,5,6,7,8] [0,1,2,3,4,5,6,7,8]	[200,200,200,200,200,200,200,200] [200,200,200,200,200,200,200,200] [200,200,200,200,200,200,200,200]	[0,1,2,3,4,5,6,7,8]	[200,200,200,200,200,200,200,200,200]
	T2-A Domain Shift + Label Shift (Open-set)	T2-A2	[0,1,2,3,4,5] [0,1,2,3,4,5] [0,1,2,3,4,5]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[3,4,5,6]	[200,200,200,200]
		T2-A3	[0,1,2,3,4,5] [0,1,2,3,4,5]	[200,200,200,200,200,200] [200,200,200,200,200,200]	[3,4,5,6,7]	[200,200,200,200,200]

			[0,1,2,3,4,5]	[200,200,200,200,200,200]		
		T2-A4	[0,1,2,3,4,5] [0,1,2,3,4,5] [0,1,2,3,4,5]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[3,4,5,6,7,8]	[200,200,200,200,200,200]
		T2-A5	[0,3,4] [1,5,6] [2,7]	[200,200,200] [200,200,200] [200,200]	[3,4,5,6,7,8]	[200,200,200,200,200,200]
		T2-A6	[0,3,4] [1,3,5,6] [2,3,7]	[200,200,200] [200,200,200,200] [200,200,200]	[3,4,5,6,7,8]	[200,200,200,200,200,200]
		T2-A7	[0,3,4] [1,3,4,5,6] [2,3,4,7]	[200,200,200] [200,200,200,200,200] [200,200,200,200]	[3,4,5,6,7,8]	[200,200,200,200,200,200]
		T2-A8	[0,3,4,5] [1,3,4,5,6] [2,3,4,5,7]	[200,200,200,200] [200,200,200,200,200] [200,200,200,200,200]	[3,4,5,6,7,8]	[200,200,200,200,200,200]
		T2-A9	[0,3,4,5,6] [1,3,4,5,6] [2,3,4,5,6,7]	[200,200,200,200,200] [200,200,200,200,200] [200,200,200,200,200,200]	[3,4,5,6,7,8]	[200,200,200,200,200,200]
		T2-A10	[0,3,4,5,6,7] [1,3,4,5,6,7] [2,3,4,5,6,7]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[3,4,5,6,7,8]	[200,200,200,200,200,200]
		T2-A11	[0,1,4,5,6,7] [2,4,5,6,7] [3,4,5,6,7]	[200,200,200,200,200,200] [200,200,200,200,200] [200,200,200,200,200]	[4,5,6,7,8]	[200,200,200,200,200]
		T2-A12	[0,1,4,5,6,7] [0,2,4,5,6,7] [0,3,4,5,6,7]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[4,5,6,7,8]	[200,200,200,200,200]
		T2-A13	[0,1,4,5,6,7] [0,1,2,4,5,6,7] [0,1,3,4,5,6,7]	[200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[4,5,6,7,8]	[200,200,200,200,200]
		T2-A14	[0,1,2,4,5,6,7] [0,1,2,4,5,6,7] [0,1,2,3,4,5,6,7]	[200,200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200,200]	[4,5,6,7,8]	[200,200,200,200,200]
		T2-A15	[0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7]	[200,200,200,200,200,200,200,200] [200,200,200,200,200,200,200,200] [200,200,200,200,200,200,200,200]	[4,5,6,7,8]	[200,200,200,200,200]
	T2-B Domain Shift	T2-B1($\alpha=0.1$)	[0,1,2,3,4,5,6,7,8]	[1,214,1,507,1,1,1,13,161]	[0,1,2,3,4,5,6,7,8]	[100,100,100,100,100,100,100,100,100]

1 hp	+ Label Shift (Closed-set)		[0,1,2,3,4,5,6,7,8] [0,1,2,3,4,5,6,7,8]	[60,1,1,1,2,1,3,1,830] [43,2,823,1,2,1,23,1,4]		
		T2-B2($\alpha=0.5$)	[0,1,2,3,4,5,6,7,8] [0,1,2,3,4,5,6,7,8] [0,1,2,3,4,5,6,7,8]	[45,93,86,158,129,840,13,47,389] [112,15,14,51,345,242,680,336,5] [915,2,72,50,232,129,344,36,20]	[0,1,2,3,4,5,6,7,8]	[200,200,200,200,200,200,200,200]
		T2-B3($\alpha=1$)	[0,1,2,3,4,5,6,7,8] [0,1,2,3,4,5,6,7,8] [0,1,2,3,4,5,6,7,8]	[561,142,248,370,40,822,174,200,143] [35,311,227,225,101,532,304,371,594] [33,322,203,274,518,402,500,210,238]	[0,1,2,3,4,5,6,7,8]	[300,300,300,300,300,300,300,300]
		T2-B4($\alpha=5$)	[0,1,2,3,4,5,6,7,8] [0,1,2,3,4,5,6,7,8] [0,1,2,3,4,5,6,7,8]	[624,428,344,257,224,154,200,291,178] [290,139,215,393,338,319,514,335,157] [451,397,272,170,415,276,264,305,150]	[0,1,2,3,4,5,6,7,8]	[300,300,300,300,300,300,300,300]
	T3-A Domain Shift + No Label Shift	T3-A1	[0,1,2,3,4,5,6,7,8] [0,1,2,3,4,5,6,7,8] [0,1,2,3,4,5,6,7,8]	[200,200,200,200,200,200,200,200] [200,200,200,200,200,200,200,200] [200,200,200,200,200,200,200,200]	[0,1,2,3,4,5,6,7,8]	[200,200,200,200,200,200,200,200]
	T3-A Domain Shift + Label Shift (Open-set)	T3-A2	[0,1,2,3,4,5] [0,1,2,3,4,5] [0,1,2,3,4,5]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[3,4,5,6]	[200,200,200,200]
		T3-A3	[0,1,2,3,4,5] [0,1,2,3,4,5] [0,1,2,3,4,5]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[3,4,5,6,7]	[200,200,200,200,200]
		T3-A4	[0,1,2,3,4,5] [0,1,2,3,4,5] [0,1,2,3,4,5]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[3,4,5,6,7,8]	[200,200,200,200,200,200]
		T3-A5	[0,3,4] [1,5,6] [2,7]	[200,200,200] [200,200,200] [200,200]	[3,4,5,6,7,8]	[200,200,200,200,200,200]
		T3-A6	[0,3,4] [1,3,5,6] [2,3,7]	[200,200,200] [200,200,200,200] [200,200,200]	[3,4,5,6,7,8]	[200,200,200,200,200,200]
		T3-A7	[0,3,4] [1,3,4,5,6] [2,3,4,7]	[200,200,200] [200,200,200,200,200] [200,200,200,200]	[3,4,5,6,7,8]	[200,200,200,200,200,200]
		T3-A8	[0,3,4,5] [1,3,4,5,6] [2,3,4,5,7]	[200,200,200,200] [200,200,200,200,200] [200,200,200,200,200]	[3,4,5,6,7,8]	[200,200,200,200,200,200]
		T3-A9	[0,3,4,5,6] [1,3,4,5,6] [2,3,4,5,6,7]	[200,200,200,200,200] [200,200,200,200,200] [200,200,200,200,200]	[3,4,5,6,7,8]	[200,200,200,200,200,200]

		T3-A10	[0,3,4,5,6,7] [1,3,4,5,6,7] [2,3,4,5,6,7]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[3,4,5,6,7,8]	[200,200,200,200,200,200]
		T3-A11	[0,1,4,5,6,7] [2,4,5,6,7] [3,4,5,6,7]	[200,200,200,200,200,200] [200,200,200,200,200] [200,200,200,200,200]	[4,5,6,7,8]	[200,200,200,200,200]
		T3-A12	[0,1,4,5,6,7] [0,2,4,5,6,7] [0,3,4,5,6,7]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[4,5,6,7,8]	[200,200,200,200,200]
		T3-A13	[0,1,4,5,6,7] [0,1,2,4,5,6,7] [0,1,3,4,5,6,7]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[4,5,6,7,8]	[200,200,200,200,200]
		T3-A14	[0,1,2,4,5,6,7] [0,1,2,4,5,6,7] [0,1,2,3,4,5,6,7]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[4,5,6,7,8]	[200,200,200,200,200]
		T3-A15	[0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7]	[200,200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[4,5,6,7,8]	[200,200,200,200,200]
	T3-B Domain Shift + Label Shift (Closed-set)	T3-B1($\alpha=0.1$)	[0,1,2,3,4,5,6,7,8] [0,1,2,3,4,5,6,7,8] [0,1,2,3,4,5,6,7,8]	[1,214,1,507,1,1,1,13,161] [60,1,1,1,2,1,3,1,830] [43,2,823,1,2,1,23,1,4]	[0,1,2,3,4,5,6,7,8]	[100,100,100,100,100,100,100,100,100]
		T3-B2($\alpha=0.5$)	[0,1,2,3,4,5,6,7,8] [0,1,2,3,4,5,6,7,8] [0,1,2,3,4,5,6,7,8]	[45,93,86,158,129,840,13,47,389] [112,15,14,51,345,242,680,336,5] [915,2,72,50,232,129,344,36,20]	[0,1,2,3,4,5,6,7,8]	[200,200,200,200,200,200,200,200,200]
		T3-B3($\alpha=1$)	[0,1,2,3,4,5,6,7,8] [0,1,2,3,4,5,6,7,8] [0,1,2,3,4,5,6,7,8]	[561,142,248,370,40,822,174,200,143] [35,311,227,225,101,532,304,371,594] [33,322,203,274,518,402,500,210,238]	[0,1,2,3,4,5,6,7,8]	[300,300,300,300,300,300,300,300,300]
		T3-B4($\alpha=5$)	[0,1,2,3,4,5,6,7,8] [0,1,2,3,4,5,6,7,8] [0,1,2,3,4,5,6,7,8]	[624,428,344,257,224,154,200,291,178] [290,139,215,393,338,319,514,335,157] [451,397,272,170,415,276,264,305,150]	[0,1,2,3,4,5,6,7,8]	[300,300,300,300,300,300,300,300,300]
0 hp	T4-A Domain Shift + No Label Shift	T4-A1	[0,1,2,3,4,5,6,7,8] [0,1,2,3,4,5,6,7,8] [0,1,2,3,4,5,6,7,8]	[200,200,200,200,200,200,200,200] [200,200,200,200,200,200,200,200] [200,200,200,200,200,200,200,200]	[0,1,2,3,4,5,6,7,8]	[200,200,200,200,200,200,200,200,200]
	T4-A Domain Shift + Label Shift (Open-set)	T4-A2	[0,1,2,3,4,5] [0,1,2,3,4,5] [0,1,2,3,4,5]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[3,4,5,6]	[200,200,200,200]
		T4-A3	[0,1,2,3,4,5] [0,1,2,3,4,5]	[200,200,200,200,200,200] [200,200,200,200,200,200]	[3,4,5,6,7]	[200,200,200,200,200]

			[0,1,2,3,4,5]	[200,200,200,200,200,200]		
		T4-A4	[0,1,2,3,4,5] [0,1,2,3,4,5] [0,1,2,3,4,5]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[3,4,5,6,7,8]	[200,200,200,200,200,200]
		T4-A5	[0,3,4] [1,5,6] [2,7]	[200,200,200] [200,200,200] [200,200]	[3,4,5,6,7,8]	[200,200,200,200,200,200]
		T4-A6	[0,3,4] [1,3,5,6] [2,3,7]	[200,200,200] [200,200,200,200] [200,200,200]	[3,4,5,6,7,8]	[200,200,200,200,200,200]
		T4-A7	[0,3,4] [1,3,4,5,6] [2,3,4,7]	[200,200,200] [200,200,200,200,200] [200,200,200,200]	[3,4,5,6,7,8]	[200,200,200,200,200,200]
		T4-A8	[0,3,4,5] [1,3,4,5,6] [2,3,4,5,7]	[200,200,200,200] [200,200,200,200,200] [200,200,200,200,200]	[3,4,5,6,7,8]	[200,200,200,200,200,200]
		T4-A9	[0,3,4,5,6] [1,3,4,5,6] [2,3,4,5,6,7]	[200,200,200,200,200] [200,200,200,200,200] [200,200,200,200,200,200]	[3,4,5,6,7,8]	[200,200,200,200,200,200]
		T4-A10	[0,3,4,5,6,7] [1,3,4,5,6,7] [2,3,4,5,6,7]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[3,4,5,6,7,8]	[200,200,200,200,200,200]
		T4-A11	[0,1,4,5,6,7] [2,4,5,6,7] [3,4,5,6,7]	[200,200,200,200,200,200] [200,200,200,200,200] [200,200,200,200,200]	[4,5,6,7,8]	[200,200,200,200,200]
		T4-A12	[0,1,4,5,6,7] [0,2,4,5,6,7] [0,3,4,5,6,7]	[200,200,200,200,200,200] [200,200,200,200,200,200] [200,200,200,200,200,200]	[4,5,6,7,8]	[200,200,200,200,200]
		T4-A13	[0,1,4,5,6,7] [0,1,2,4,5,6,7] [0,1,3,4,5,6,7]	[200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200]	[4,5,6,7,8]	[200,200,200,200,200]
		T4-A14	[0,1,2,4,5,6,7] [0,1,2,4,5,6,7] [0,1,2,3,4,5,6,7]	[200,200,200,200,200,200,200] [200,200,200,200,200,200,200] [200,200,200,200,200,200,200,200]	[4,5,6,7,8]	[200,200,200,200,200]
		T4-A15	[0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7] [0,1,2,3,4,5,6,7]	[200,200,200,200,200,200,200,200] [200,200,200,200,200,200,200,200] [200,200,200,200,200,200,200,200]	[4,5,6,7,8]	[200,200,200,200,200]
	T4-B Domain Shift	T4-B1($\alpha=0.1$)	[0,1,2,3,4,5,6,7,8]	[1,214,1,507,1,1,1,13,161]	[0,1,2,3,4,5,6,7,8]	[100,100,100,100,100,100,100,100,100]

	+ Label Shift (Closed-set)	T4-B2($\alpha=0.5$)	[0,1,2,3,4,5,6,7,8]	[60,1,1,1,2,1,3,1,830]		
			[0,1,2,3,4,5,6,7,8]	[43,2,823,1,2,1,23,1,4]		
			[0,1,2,3,4,5,6,7,8]	[45,93,86,158,129,840,13,47,389]		
			[0,1,2,3,4,5,6,7,8]	[112,15,14,51,345,242,680,336,5]		
		T4-B3($\alpha=1$)	[0,1,2,3,4,5,6,7,8]	[915,2,72,50,232,129,344,36,20]	[0,1,2,3,4,5,6,7,8]	[200,200,200,200,200,200,200,200]
			[0,1,2,3,4,5,6,7,8]	[561,142,248,370,40,822,174,200,143]		
			[0,1,2,3,4,5,6,7,8]	[35,311,227,225,101,532,304,371,594]		
			[0,1,2,3,4,5,6,7,8]	[33,322,203,274,518,402,500,210,238]		
		T4-B4($\alpha=5$)	[0,1,2,3,4,5,6,7,8]	[624,428,344,257,224,154,200,291,178]	[0,1,2,3,4,5,6,7,8]	[300,300,300,300,300,300,300,300]
			[0,1,2,3,4,5,6,7,8]	[290,139,215,393,338,319,514,335,157]		
			[0,1,2,3,4,5,6,7,8]	[451,397,272,170,415,276,264,305,150]		
			[0,1,2,3,4,5,6,7,8]			

(e) HUSTgearbox

Source Domains	Target Domain	Task Type	Task Name	Source classes	Source label Num.	Target classes	Target Num.
[0 hp, 1 hp, 2 hp]	3 hp	T1-A Domain Shift + No Label Shift	T1-A1	[0,1,2]	[200,200,200]	[0,1,2]	[200,200,200]
				[0,1,2]	[200,200,200]		
				[0,1,2]	[200,200,200]		
		T1-A Domain Shift + Label Shift (Open-set)	T1-A2	[0,1]	[200,200]	[1]	[200]
				[0,1]	[200,200]		
				[0,1]	[200,200]		
			T1-A3	[0,1]	[200,200]	[1,2]	[200,200]
				[0,1]	[200,200]		
				[0,1]	[200,200]		
		T1-B Domain Shift + Label Shift (Closed-set)	T1-B1($\alpha=0.1$)	[0,1,2]	[44,80,776]	[0,1,2]	[300,300,300]
				[0,1,2]	[184,586,130]		
				[0,1,2]	[1,897,2]		
			T1-B2($\alpha=0.5$)	[0,1,2]	[425,62,413]	[0,1,2]	[300,300,300]
				[0,1,2]	[646,27,227]		
				[0,1,2]	[147,4,749]		
			T1-B3($\alpha=1$)	[0,1,2]	[145,611,144]	[0,1,2]	[300,300,300]
				[0,1,2]	[332,56,512]		
				[0,1,2]	[148,402,350]		
			T1-B4($\alpha=5$)	[0,1,2]	[313,228,359]	[0,1,2]	[300,300,300]
				[0,1,2]	[274,290,336]		
				[0,1,2]	[226,430,244]		

[0 hp, 1 hp, 3 hp]	2 hp	T2-A Domain Shift + No Label Shift	T2-A1	[0,1,2] [0,1,2] [0,1,2]	[200,200,200] [200,200,200] [200,200,200]	[0,1,2]	[200,200,200]
		T2-A Domain Shift + Label Shift (Open-set)	T2-A2	[0,1] [0,1] [0,1]	[200,200] [200,200] [200,200]	[1]	[200]
			T2-A3	[0,1] [0,1] [0,1]	[200,200] [200,200] [200,200]	[1,2]	[200,200]
		T2-B Domain Shift + Label Shift (Closed-set)	T2-B1($\alpha=0.1$)	[0,1,2] [0,1,2] [0,1,2]	[44,80,776] [184,586,130] [1,897,2]	[0,1,2]	[300,300,300]
			T2-B2($\alpha=0.5$)	[0,1,2] [0,1,2] [0,1,2]	[425,62,413] [646,27,227] [147,4,749]	[0,1,2]	[300,300,300]
			T2-B3($\alpha=1$)	[0,1,2] [0,1,2] [0,1,2]	[145,611,144] [332,56,512] [148,402,350]	[0,1,2]	[300,300,300]
			T2-B4($\alpha=5$)	[0,1,2] [0,1,2] [0,1,2]	[313,228,359] [274,290,336] [226,430,244]	[0,1,2]	[300,300,300]
		T3-A Domain Shift + No Label Shift	T3-A1	[0,1,2] [0,1,2] [0,1,2]	[200,200,200] [200,200,200] [200,200,200]	[0,1,2]	[200,200,200]
			T3-A2	[0,1] [0,1] [0,1]	[200,200] [200,200] [200,200]	[1]	[200]
			T3-A3	[0,1] [0,1] [0,1]	[200,200] [200,200] [200,200]	[1,2]	[200,200]
[0 hp, 2 hp, 3 hp]	1 hp	T3-B Domain Shift + Label Shift (Closed-set)	T3-B1($\alpha=0.1$)	[0,1,2] [0,1,2] [0,1,2]	[44,80,776] [184,586,130] [1,897,2]	[0,1,2]	[300,300,300]
			T3-B2($\alpha=0.5$)	[0,1,2] [0,1,2] [0,1,2]	[425,62,413] [646,27,227] [147,4,749]	[0,1,2]	[300,300,300]
			T3-B3($\alpha=1$)	[0,1,2] [0,1,2] [0,1,2]	[145,611,144] [332,56,512] [148,402,350]	[0,1,2]	[300,300,300]

			T3-B4($\alpha=5$)	[0,1,2] [0,1,2] [0,1,2]	[313,228,359] [274,290,336] [226,430,244]	[0,1,2]	[300,300,300]
[1 hp, 2 hp, 3 hp]	0 hp	T4-A Domain Shift + No Label Shift	T4-A1	[0,1,2] [0,1,2] [0,1,2]	[200,200,200] [200,200,200] [200,200,200]	[0,1,2]	[200,200,200]
		T4-A Domain Shift + Label Shift (Open-set)	T4-A2	[0,1] [0,1] [0,1]	[200,200] [200,200] [200,200]	[1]	[200]
				[0,1] [0,1] [0,1]	[200,200] [200,200] [200,200]	[1,2]	[200,200]
		T4-B Domain Shift + Label Shift (Closed-set)	T4-B1($\alpha=0.1$)	[0,1,2] [0,1,2] [0,1,2]	[44,80,776] [184,586,130] [1,897,2]	[0,1,2]	[300,300,300]
				[0,1,2] [0,1,2] [0,1,2]	[425,62,413] [646,27,227] [147,4,749]	[0,1,2]	[300,300,300]
			T4-B3($\alpha=1$)	[0,1,2] [0,1,2] [0,1,2]	[145,611,144] [332,56,512] [148,402,350]	[0,1,2]	[300,300,300]
				[0,1,2] [0,1,2] [0,1,2]	[313,228,359] [274,290,336] [226,430,244]	[0,1,2]	[300,300,300]

(2) Cross-machine

Task name	Source domains	Source classes	Source label Num	Unknown target domain	Target domain classes	Target domain label Num
T1-G1	[CWRU,IMS,JNU]	[[0,5,9],[0,1,2],[0,1,2]]	[[200,200,200],[200,200,200],[200,200,200]]	HUST	[[0,1,3]]	[[200,200,200]]
T2-G1	[CWRU,IMS,HUST]	[[0,5,9],[0,1,2],[0,1,3]]	[[200,200,200],[200,200,200],[200,200,200]]	JNU	[[0,1,2]]	[[200,200,200]]
T3-G1	[CWRU,JNU,HUST]	[[0,5,9],[0,1,2],[0,1,3]]	[[200,200,200],[200,200,200],[200,200,200]]	IMS	[[0,1,2]]	[[200,200,200]]
T4-G1	[IMS,JNU,HUST]	[[0,1,2],[0,1,2],[0,1,3]]	[[200,200,200],[200,200,200],[200,200,200]]	CWRU	[[0,5,9]]	[[200,200,200]]
T1-G2	[CWRU,IMS,JNU]	[[0,5,9],[0,1,2],[0,1,2]]	[[200,200,200],[200,200,200],[200,200,200]]	Gearbox	[0,1,2]	[[200,200,200]]
T2-G2	[CWRU,IMS,Gearbox]	[[0,5,9],[0,1,2],[0,1,2]]	[[200,200,200],[200,200,200],[200,200,200]]	JNU	[0,1,2]	[[200,200,200]]
T3-G2	[CWRU,JNU,Gearbox]	[[0,5,9],[0,1,2],[0,1,2]]	[[200,200,200],[200,200,200],[200,200,200]]	IMS	[0,1,2]	[[200,200,200]]
T4-G2	[IMS,JNU,Gearbox]	[[0,1,2],[0,1,2],[0,1,2]]	[[200,200,200],[200,200,200],[200,200,200]]	CWRU	[0,5,9]	[[200,200,200]]
T1-G3	[CWRU,HUST,Gearbox]	[[0,5,9],[0,1,3],[0,1,2]]	[[200,200,200],[200,200,200],[200,200,200]]	XJTU	[0,1,2]	[[200,200,200]]
T2-G3	[CWRU,HUST,XJTU]	[[0,5,9],[0,1,3],[0,1,2]]	[[200,200,200],[200,200,200],[200,200,200]]	Gearbox	[0,1,2]	[[200,200,200]]
T3-G3	[CWRU,Gearbox,XJTU]	[[0,5,9],[0,1,2],[0,1,2]]	[[200,200,200],[200,200,200],[200,200,200]]	HUST	[0,1,3]	[[200,200,200]]
T4-G3	[HUST,Gearbox,XJTU]	[[0,1,3],[0,1,2],[0,1,2]]	[[200,200,200],[200,200,200],[200,200,200]]	CWRU	[0,5,9]	[[200,200,200]]
T1-G4	[CWRU,JNU,Gearbox]	[[0,5,9],[0,1,2],[0,1,2]]	[[200,200,200],[200,200,200],[200,200,200]]	XJTU	[0,1,2]	[[200,200,200]]
T2-G4	[CWRU,JNU,XJTU]	[[0,5,9],[0,1,2],[0,1,2]]	[[200,200,200],[200,200,200],[200,200,200]]	Gearbox	[0,1,2]	[[200,200,200]]
T3-G4	[CWRU,Gearbox,XJTU]	[[0,5,9],[0,1,2],[0,1,2]]	[[200,200,200],[200,200,200],[200,200,200]]	JNU	[0,1,2]	[[200,200,200]]
T4-G4	[JNU,Gearbox,XJTU]	[[0,1,2],[0,1,2],[0,1,2]]	[[200,200,200],[200,200,200],[200,200,200]]	CWRU	[0,5,9]	[[200,200,200]]

A2.2 Feature Space Heterogeneity

Task name		Source1 feature	Source1 label Num	Source2 feature	Source2 label Num	Target feature	Target label Num
Task1 ($\alpha = \infty$)	T1	[0,1,2,3]	[351,355,353,349]	[4,5,6,7]	[351,356,352,348]	[2,3,4,5]	[147,148,150,142]
	T2	[0,1,4,5]	[351,355,353,349]	[2,3,6,7]	[352,353,351,350]	[2,3,4,5]	[149,151,146,145]
	T3	[0,1,6,7]	[351,355,353,350]	[2,3,4,5]	[351,354,354,348]	[2,3,6,7]	[146,149,147,146]
	T4	[0,2,3,4]	[352,354,353,350]	[1,5,6,7]	[351,355,352,349]	[1,3,4,5]	[147,149,149,144]
	T5	[0,3,5,6]	[352,356,352,348]	[1,2,4,7]	[351,356,352,347]	[1,3,4,6]	[152,146,147,143]
	T6	[0,3,6,7]	[352,355,352,350]	[1,2,4,5]	[352,354,352,350]	[1,3,4,7]	[145,150,149,145]
	T7	[0,1,2,3,4]	[353,355,352,349,351]	[5,6,7]	[350,356,353]	[0,1,2,3,4,5,6,7]	[147,147,149,146,147,0,0,0]
	T8	[1,2,3,4,5]	[352,355,353,348,352]	[0,6,7]	[352,352,353]	[0,1,2,3,4,5,6,7]	[148,147,148,145,148,0,0,0]
	T9	[2,3,4,5,6]	[352,353,354,349,352]	[0,1,7]	[351,355,353]	[0,1,2,3,4,5,6,7]	[149,149,145,147,146,0,0,0]
	T10	[3,4,5,6,7]	[353,354,352,348,353]	[0,1,2]	[352,355,354]	[0,1,2,3,4,5,6,7]	[145,149,146,146,150,0,0,0]
	T11	[0,4,5,6,7]	[350,354,354,350,352]	[1,2,3]	[352,354,353]	[0,1,2,3,4,5,6,7]	[148,149,146,143,150,0,0,0]
	T12	[0,1,5,6,7]	[353,355,353,346,353]	[2,3,4]	[350,355,352]	[0,1,2,3,4,5,6,7]	[145,149,148,145,149,0,0,0]
	T13	[0,1,2,6,7]	[353,354,351,349,353]	[3,4,5]	[353,353,352]	[0,1,2,3,4,5,6,7]	[149,151,143,146,147,0,0,0]
	T14	[0,1,2,3,7]	[353,355,353,347,352]	[4,5,6]	[350,354,354]	[0,1,2,3,4,5,6,7]	[145,148,149,146,148,0,0,0]
Task2 ($\alpha = 5$)	T1	[0,1,2,3]	[141,310,142,174]	[4,5,6,7]	[210,269,34,201]	[2,3,4,5]	[149,147,150,144]
	T2	[0,1,4,5]	[145,310,140,170]	[2,3,6,7]	[209,270,33,202]	[2,3,4,5]	[152,150,145,147]

	T3	[0,1,6,7]	[144,309,139,173]	[2,3,4,5]	[207,270,33,204]	[2,3,6,7]	[147,148,148,146]
	T4	[0,2,3,4]	[140,312,139,176]	[1,5,6,7]	[204,272,32,205]	[1,3,4,5]	[148,148,149,143]
	T5	[0,3,5,6]	[144,310,141,175]	[1,2,4,7]	[206,274,33,201]	[1,3,4,6]	[147,148,149,145]
	T6	[0,3,6,7]	[143,311,139,173]	[1,2,4,5]	[209,272,34,199]	[1,3,4,7]	[148,145,148,146]
	T7	[0,1,2,3,4]	[145,308,140,174,97]	[5,6,7]	[205,273,34]	[0,1,2,3,4,5,6,7]	[146,149,146,147,148,0,0,0]
	T8	[1,2,3,4,5]	[143,311,138,175,97]	[0,6,7]	[209,270,32]	[0,1,2,3,4,5,6,7]	[146,151,148,145,146,0,0,0]
	T9	[2,3,4,5,6]	[143,311,137,177,96]	[0,1,7]	[206,272,33]	[0,1,2,3,4,5,6,7]	[146,149,150,145,146,0,0,0]
	T10	[3,4,5,6,7]	[144,306,141,176,97]	[0,1,2]	[206,272,32]	[0,1,2,3,4,5,6,7]	[148,149,146,146,147,0,0,0]
	T11	[0,4,5,6,7]	[143,310,141,173,97]	[1,2,3]	[207,271,33]	[0,1,2,3,4,5,6,7]	[149,148,148,143,148,0,0,0]
	T12	[0,1,5,6,7]	[145,305,140,177,97]	[2,3,4]	[209,271,34]	[0,1,2,3,4,5,6,7]	[149,149,147,142,149,0,0,0]
	T13	[0,1,2,6,7]	[142,309,139,175,99]	[3,4,5]	[208,274,32]	[0,1,2,3,4,5,6,7]	[146,147,151,141,151,0,0,0]
	T14	[0,1,2,3,7]	[145,307,139,175,98]	[4,5,6]	[205,273,33]	[0,1,2,3,4,5,6,7]	[149,149,148,142,148,0,0,0]
Task3 ($\alpha = 1$)	T1	[0,1,2,3]	[127,37,348,59]	[4,5,6,7]	[105,37,241,338]	[2,3,4,5]	[150,145,149,146]
	T2	[0,1,4,5]	[126,37,350,60]	[2,3,6,7]	[109,36,237,340]	[2,3,4,5]	[148,145,148,146]
	T3	[0,1,6,7]	[127,37,347,60]	[2,3,4,5]	[108,35,238,342]	[2,3,6,7]	[149,147,147,147]
	T4	[0,2,3,4]	[126,36,348,60]	[1,5,6,7]	[105,36,238,338]	[1,3,4,5]	[151,147,145,146]
	T5	[0,3,5,6]	[126,37,348,60]	[1,2,4,7]	[108,36,237,335]	[1,3,4,6]	[147,148,148,146]
	T6	[0,3,6,7]	[129,37,345,59]	[1,2,4,5]	[109,37,239,333]	[1,3,4,7]	[146,147,148,146]
	T7	[0,1,2,3,4]	[129,36,349,60,162]	[5,6,7]	[109,37,236]	[0,1,2,3,4,5,6,7]	[147,145,152,143,149,0,0,0]
	T8	[1,2,3,4,5]	[127,35,348,61,165]	[0,6,7]	[107,35,241]	[0,1,2,3,4,5,6,7]	[147,152,150,139,148,0,0,0]
	T9	[2,3,4,5,6]	[128,37,348,58,165]	[0,1,7]	[107,37,235]	[0,1,2,3,4,5,6,7]	[150,147,146,146,147,0,0,0]
	T10	[3,4,5,6,7]	[128,37,349,60,162]	[0,1,2]	[107,36,237]	[0,1,2,3,4,5,6,7]	[150,147,149,145,145,0,0,0]
	T11	[0,4,5,6,7]	[126,37,350,60,163]	[1,2,3]	[110,36,238]	[0,1,2,3,4,5,6,7]	[148,149,143,147,149,0,0,0]
	T12	[0,1,5,6,7]	[126,36,351,61,162]	[2,3,4]	[106,37,239]	[0,1,2,3,4,5,6,7]	[149,146,149,148,144,0,0,0]
	T13	[0,1,2,6,7]	[127,37,348,60,164]	[3,4,5]	[109,37,239]	[0,1,2,3,4,5,6,7]	[146,149,146,149,146,0,0,0]
	T14	[0,1,2,3,7]	[129,34,348,61,164]	[4,5,6]	[108,35,239]	[0,1,2,3,4,5,6,7]	[151,148,146,144,147,0,0,0]
Task4 ($\alpha = 0.5$)	T1	[0,1,2,3]	[1,145,333,1]	[4,5,6,7]	[302,21,1,6]	[2,3,4,5]	[147,149,148,144]
	T2	[0,1,4,5]	[1,146,332,1]	[2,3,6,7]	[297,20,1,6]	[2,3,4,5]	[148,151,142,145]
	T3	[0,1,6,7]	[1,142,337,0]	[2,3,4,5]	[298,21,1,6]	[2,3,6,7]	[149,147,151,140]
	T4	[0,2,3,4]	[1,146,332,1]	[1,5,6,7]	[302,20,0,5]	[1,3,4,5]	[145,149,150,143]
	T5	[0,3,5,6]	[1,144,334,1]	[1,2,4,7]	[301,21,1,6]	[1,3,4,6]	[147,149,146,146]
	T6	[0,3,6,7]	[1,148,330,1]	[1,2,4,5]	[301,21,1,6]	[1,3,4,7]	[144,147,149,149]
	T7	[0,1,2,3,4]	[1,147,331,1,0]	[5,6,7]	[301,19,1]	[0,1,2,3,4,5,6,7]	[145,148,148,148,147,0,0,0]
	T8	[1,2,3,4,5]	[1,144,334,1,0]	[0,6,7]	[302,21,1]	[0,1,2,3,4,5,6,7]	[146,145,150,146,149,0,0,0]
	T9	[2,3,4,5,6]	[1,146,332,1,0]	[0,1,7]	[302,21,1]	[0,1,2,3,4,5,6,7]	[145,148,147,145,151,0,0,0]
	T10	[3,4,5,6,7]	[1,144,334,1,0]	[0,1,2]	[302,21,1]	[0,1,2,3,4,5,6,7]	[149,148,146,144,149,0,0,0]
	T11	[0,4,5,6,7]	[1,145,333,1,0]	[1,2,3]	[298,21,1]	[0,1,2,3,4,5,6,7]	[148,147,151,141,149,0,0,0]
	T12	[0,1,5,6,7]	[1,145,333,1,0]	[2,3,4]	[299,20,1]	[0,1,2,3,4,5,6,7]	[145,146,149,147,149,0,0,0]
	T13	[0,1,2,6,7]	[1,149,329,1,0]	[3,4,5]	[303,18,1]	[0,1,2,3,4,5,6,7]	[148,146,151,145,146,0,0,0]

	T14	[0,1,2,3,7]	[1,150,328,1,0]	[4,5,6]	[303,20,1]	[0,1,2,3,4,5,6,7]	[147,148,149,148,144,0,0,0]
Task5 ($\alpha = 0.1$)	T1	[0,1,2,3]	[0,0,0,320]	[4,5,6,7]	[0,354,0,350]	[2,3,4,5]	[145,147,149,146]
	T2	[0,1,4,5]	[0,0,0,320]	[2,3,6,7]	[0,355,0,349]	[2,3,4,5]	[151,151,144,143]
	T3	[0,1,6,7]	[0,0,0,320]	[2,3,4,5]	[0,356,0,348]	[2,3,6,7]	[146,150,148,147]
	T4	[0,2,3,4]	[0,0,0,320]	[1,5,6,7]	[0,356,0,348]	[1,3,4,5]	[141,149,146,148]
	T5	[0,3,5,6]	[0,0,0,320]	[1,2,4,7]	[0,356,0,348]	[1,3,4,6]	[146,149,147,144]
	T6	[0,3,6,7]	[0,0,0,320]	[1,2,4,5]	[0,355,0,349]	[1,3,4,7]	[150,141,149,148]
	T7	[0,1,2,3,4]	[0,0,0,320,0]	[5,6,7]	[0,355,0]	[0,1,2,3,4,5,6,7]	[148,144,151,145,148,0,0,0]
	T8	[1,2,3,4,5]	[0,0,0,320,0]	[0,6,7]	[0,355,0]	[0,1,2,3,4,5,6,7]	[146,150,148,146,146,0,0,0]
	T9	[2,3,4,5,6]	[0,0,0,320,0]	[0,1,7]	[0,355,0]	[0,1,2,3,4,5,6,7]	[144,147,149,148,148,0,0,0]
	T10	[3,4,5,6,7]	[0,0,0,320,0]	[0,1,2]	[0,355,0]	[0,1,2,3,4,5,6,7]	[146,149,147,145,149,0,0,0]
	T11	[0,4,5,6,7]	[0,0,0,320,0]	[1,2,3]	[0,354,0]	[0,1,2,3,4,5,6,7]	[148,150,149,144,145,0,0,0]
	T12	[0,1,5,6,7]	[0,0,0,320,0]	[2,3,4]	[0,354,0]	[0,1,2,3,4,5,6,7]	[146,149,146,148,147,0,0,0]
	T13	[0,1,2,6,7]	[0,0,0,320,0]	[3,4,5]	[0,356,0]	[0,1,2,3,4,5,6,7]	[147,147,150,144,148,0,0,0]
	T14	[0,1,2,3,7]	[0,0,0,320,0]	[4,5,6]	[0,354,0]	[0,1,2,3,4,5,6,7]	[149,150,147,148,142,0,0,0]

A2.3 Model Heterogeneity

(1) Cross-working condition

Dataset name	Task name	Global model	Loacal model
CWRU	T1-A1-M1	Model_1	[Model_1,Model_1,Model_1]
	T1-A1-M2	Model_1	[Model_2,Model_2,Model_2]
	T1-A1-M3	Model_1	[Model_3,Model_3,Model_3]
	T1-A1-M4	Model_1	[Model_1,Model_2,Model_3]
	T1-A2-M1	Model_1	[Model_1,Model_1,Model_1]
	T1-A2-M2	Model_1	[Model_2,Model_2,Model_2]
	T1-A2-M3	Model_1	[Model_3,Model_3,Model_3]
	T1-A2-M4	Model_1	[Model_1,Model_2,Model_3]

	T4-B1-M1	Model_1	[Model_1,Model_1,Model_1]
	T4-B2-M2	Model_1	[Model_2,Model_2,Model_2]
	T4-B3-M3	Model_1	[Model_3,Model_3,Model_3]
	T4-B4-M4	Model_1	[Model_1,Model_2,Model_3]
Total task num	320		
PHM09	T1-A1-M1	Model_1	[Model_1,Model_1,Model_1]
	T1-A1-M2	Model_1	[Model_2,Model_2,Model_2]
	T1-A1-M3	Model_1	[Model_3,Model_3,Model_3]
	T1-A1-M4	Model_1	[Model_1,Model_2,Model_3]
	T1-A2-M1	Model_1	[Model_1,Model_1,Model_1]
	T1-A2-M2	Model_1	[Model_2,Model_2,Model_2]
	T1-A2-M3	Model_1	[Model_3,Model_3,Model_3]
	T1-A2-M4	Model_1	[Model_1,Model_2,Model_3]

	T1-B1-M1	Model_1	[Model_1,Model_1,Model_1]
	T1-B2-M2	Model_1	[Model_2,Model_2,Model_2]
	T1-B3-M3	Model_1	[Model_3,Model_3,Model_3]

	T1-B4-M4	Model_1	[Model_1,Model_2,Model_3]
Total task num	60		

(2) Cross-machine

Task name	Source domains	Global model	Local model
T1-G1-M1	[CWRU,IMS,JNU]	Model_1	[Model_1,Model_1,Model_1]
T2-G1-M1	[CWRU,IMS,Gearbox]	Model_1	[Model_1,Model_1,Model_1]
T3-G1-M1	[CWRU,JNU,Gearbox]	Model_1	[Model_1,Model_1,Model_1]
T4-G1-M1	[IMS,JNU,Gearbox]	Model_1	[Model_1,Model_1,Model_1]
T1-G1-M2	[CWRU,IMS,JNU]	Model_1	[Model_2,Model_2,Model_2]
T2-G1-M2	[CWRU,IMS,Gearbox]	Model_1	[Model_2,Model_2,Model_2]
T3-G1-M2	[CWRU,JNU,Gearbox]	Model_1	[Model_2,Model_2,Model_2]
T4-G1-M2	[IMS,JNU,Gearbox]	Model_1	[Model_2,Model_2,Model_2]
T1-G1-M3	[CWRU,IMS,JNU]	Model_1	[Model_3,Model_3,Model_3]
T2-G1-M3	[CWRU,IMS,Gearbox]	Model_1	[Model_3,Model_3,Model_3]
T3-G1-M3	[CWRU,JNU,Gearbox]	Model_1	[Model_3,Model_3,Model_3]
T4-G1-M3	[IMS,JNU,Gearbox]	Model_1	[Model_3,Model_3,Model_3]
T1-G1-M4	[CWRU,IMS,JNU]	Model_1	[Model_1,Model_2,Model_3]
T2-G1-M4	[CWRU,IMS,Gearbox]	Model_1	[Model_1,Model_2,Model_3]
T3-G1-M4	[CWRU,JNU,Gearbox]	Model_1	[Model_1,Model_2,Model_3]
T4-G1-M4	[IMS,JNU,Gearbox]	Model_1	[Model_1,Model_2,Model_3]
Total task num	16		
T1-G2-M1	[CWRU,IMS,JNU]	Model_1	[Model_1,Model_1,Model_1]
T2-G2-M1	[CWRU,IMS,Gearbox]	Model_1	[Model_1,Model_1,Model_1]
T3-G2-M1	[CWRU,JNU,Gearbox]	Model_1	[Model_1,Model_1,Model_1]
T4-G2-M1	[IMS,JNU,Gearbox]	Model_1	[Model_1,Model_1,Model_1]
T1-G2-M2	[CWRU,IMS,JNU]	Model_1	[Model_2,Model_2,Model_2]
T2-G2-M2	[CWRU,IMS,Gearbox]	Model_1	[Model_2,Model_2,Model_2]
T3-G2-M2	[CWRU,JNU,Gearbox]	Model_1	[Model_2,Model_2,Model_2]
T4-G2-M2	[IMS,JNU,Gearbox]	Model_1	[Model_2,Model_2,Model_2]
T1-G2-M3	[CWRU,IMS,JNU]	Model_1	[Model_3,Model_3,Model_3]
T2-G2-M3	[CWRU,IMS,Gearbox]	Model_1	[Model_3,Model_3,Model_3]
T3-G2-M3	[CWRU,JNU,Gearbox]	Model_1	[Model_3,Model_3,Model_3]
T4-G2-M3	[IMS,JNU,Gearbox]	Model_1	[Model_3,Model_3,Model_3]
T1-G2-M4	[CWRU,IMS,JNU]	Model_1	[Model_1,Model_2,Model_3]

T2-G2-M4	[CWRU,IMS,Gearbox]	Model_1	[Model_1,Model_2,Model_3]
T3-G2-M4	[CWRU,JNU,Gearbox]	Model_1	[Model_1,Model_2,Model_3]
T4-G2-M4	[IMS,JNU,Gearbox]	Model_1	[Model_1,Model_2,Model_3]
Total task num	16		

Supplementary Material B

B1 Experimental Setup

B1.1 Statistical Heterogeneity

(1) Methods

Category	Subcategory	Description	Methods
Baseline			FedAvg[1]
Learn Domain-invariant Features	Model-based Strategies	Share Amplitude Spectrograms	FedAM[2]
		Share Style Distributions	DACS[3]
		Regularization: L2-norm regularizes	FedSR[4]
		Introduce Additional Modules: GAN	FADGN[5]
	FDDG[6]		
	Aggregation-based Strategies	Empirical Variance Balancing	FedDGGGA[7]
			FedIIR[8]
		Gradient Discrepancy Minimization	FedGMA[9]
			FedGM[10]
Decouple Domain-specific and Domain-invariant Features			FedDGFD[11]

(a) FedAvg

The method is a practical approach for joint learning of deep networks based on iterative model averaging[1].

(b) FedAM

The method employs an efficient continuous frequency-space interpolation mechanism to transfer distributional information among clients in a privacy-preserving manner. By leveraging the transferred multi-source distributions, a boundary-oriented scenario learning paradigm is further carefully designed to expose local learning to variations in domain distributions, particularly addressing the challenge of model generalization in medical image segmentation scenarios[2].

(c) DACS

Diversity-Authenticity Co-constrained Stylization (DACS), which can generate diverse and authentic data for learning robust local models. The method deploys a style transfer model on each domain to generate new data with two constraints: 1. A diversity constraint is designed to increase data diversity, thereby expanding the Wasserstein distance between the original and transformed data. 2. An authenticity constraint is proposed to ensure the authenticity of the data, making it easy/hard for the transformed data to be recognized by a local/global/local model[3].

(d) FedSR

The method proposes a simple yet novel representation learning framework that can achieve domain generalization while still respecting the decentralized and privacy-preserving nature of the federated learning (FL) setting. In particular, this method enforces an L2-norm regularizer on the representation and a conditional mutual information (between the representation and the data given the label) regularizer to encourage the model to only learn essential information (while ignoring spurious correlations such as the background)[4].

(e) FADGN

Federated adversarial domain generalization network (FADGN). The method proposes a novel federated adversarial mechanical fault diagnosis network. In this network, collaborative training between a central server and multiple clients is implemented, aiming to establish a global fault diagnosis model for multiple clients under data privacy conditions. To eliminate the distribution differences among different clients, a multi-element feature alignment module with adversarial learning is designed. This module introduces a class-informed generative adversarial network (GAN) to adaptively generate a reference distribution and implement an adversarial training strategy between the reference and real distributions, learning domain-generalized features for different clients[5].

(f) FDDG

Federated Distillation Domain Generalization (FDDG). The method proposes a federated distillation domain generalization (FDDG) framework for mechanical fault diagnosis. The core idea is to enable a single client to access the data distributions of multiple clients in a privacy-preserving manner and further explore domain invariance to enhance model generalization. A novel diagnostic knowledge sharing mechanism based on knowledge distillation is designed, which sets up multiple generators during the training of local models to augment synthetic data. Based on both generated and real data, a low-rank decomposition method is employed to mine domain invariance, thereby improving the model's ability to resist domain shift[6].

(g) FedDGGA

Federated Domain Generalization with Generalization Adjustment (FedDGGA). The method proposes a new global objective, combined with a novel variance-reduction regularizer to encourage fairness. A new federated-learning-friendly method, termed Generalized Averaging (GA), is introduced to optimize the aforementioned objective by dynamically calibrating the aggregation weights. The theoretical analysis of GA demonstrates that a tighter generalization bound can be achieved through explicit reweighted aggregation, thus replacing the implicit multi-domain data sharing that is only applicable to traditional Domain Generalization (DG) settings. Moreover, the algorithm is universal and can be combined with any method based on local client training[7].

(h) FedIIR

Federated Learning via Implicit Invariant Relationships (FedIIR). The method implicitly learns invariant relationships from parameters and adheres to the federated principles of preserving privacy and limited communication. Specifically, the method leverages prediction inconsistency to quantify invariant relationships and implicitly reduces these relationships through gradient alignment among clients[8].

(i) FedGMA

The method proposes a gradient masking averaging approach for joint learning, as an alternative to the standard averaging of client updates. This client update aggregation technique can serve as a drop-in replacement for most existing federated methods[9].

(j) FedGM

The method proposes a Multi-Source Collaborative Gradient Discrepancy Minimization (MCGDM) approach. Specifically, the method introduces intra-domain gradient matching between the original and augmented images to avoid overfitting to domain-specific information within isolated domains. Additionally, the method proposes inter-domain gradient matching in collaboration with other domains, which can further reduce domain shift across disjoint domains. By combining intra- and inter-domain gradient matching, the method enables the learned model to generalize well to unseen domains. Moreover, the method can be extended to the federated domain adaptation task by fine-tuning the target model on the pseudo-labeled target domain[10].

(k) FedDGFD

Federated domain generalization-based fault diagnosis (FedDGFD). The method proposes a federated learning framework based on edge-based ensemble learning. Subsequently, a two-stage training mechanism is designed to establish a domain-agnostic fault diagnosis model, achieving satisfactory diagnostic performance on unseen target domains[11].

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(2) Network structure

Module	Layer type	Kernel size	Kernel number	Activation
Feature extractor	Convolution	3×1	64	ReLU
	Convolution	3×1	32	ReLU
	Flatten	/	/	/
	Fully connected	/	128	/
Classifier	Convolution	3×1	32	ReLU
	Convolution	3×1	16	ReLU
	Flatten	/	/	/
	Fully connected	/	128	/
	Fully connected	/	num_classes	/

Module	Layer type	Size (Input→Output)	Activation
Distribution generator	Linear	$(256 + \text{num_classes}) \rightarrow 1024$	LeakyReLU
	Linear	$1024 \rightarrow 128$	ReLU
Discriminator	Linear	$(128 + \text{num_classes}) \rightarrow 1024$	/
	Linear	$1024 \rightarrow 1024$	LeakyReLU
	Linear	$1024 \rightarrow 1$	Sigmoid

(3) Parameters

Methods	local_epoch1	local_epoch2	local_epoch3
FedAvg	5	/	/
FedAM	5	/	/
DACS	5	/	/
FedSR	5	/	/
FADGN	5	10	/
FDDG	40	20	40
FedDGGA	5	/	/
FedIIR	5	/	/
FedGMA	5	/	/
FedGM	5	/	/
FedDGFD	5	/	/

B1.2 Feature Space Heterogeneity

Module	Layer type	Kernel size	Kernel number	Activation	Normalization
Feature extractor	Convolution	32×32	16	ReLU	BN
	Max-pooling	2×2	/	/	/
	Convolution	16×16	32	ReLU	BN
	Max-pooling	2×2	/	/	/
	Convolution	8×8	64	ReLU	BN
	Max-pooling	2×2	/	/	/
	Convolution	4×4	128	ReLU	BN
	Max-pooling	2×2	/	/	/
	Convolution	2×2	256	ReLU	BN
	Avg-pooling	2×2	/	/	/
	Spatial Pyramid Pooling	/	/	/	/

Module	Layer type	Size (Input→Output)	Activation	Normalization
Classifier	Fully connected	final_feature→2048	ReLU	/
	Dropout	/	/	/
	Fully connected	2048→num_classes	/	/

B1.3 Model Heterogeneity

(1) Method

G2G: The method employs a cross-domain training framework that enables the global model to directly transfer knowledge to personalized local models, leveraging local data to enhance domain-specific predictive capabilities[1].

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(2) Network structure

(a) Model1

Module	Layer type	Kernel size	Kernel number	Activation
Feature extractor	Convolution	3×1	64	ReLU
	Convolution	3×1	32	ReLU
	Flatten	/	/	/
	Fully connected	/	128	/
Classifier	Convolution	3×1	32	ReLU
	Convolution	3×1	16	ReLU
	Flatten	/	/	/
	Fully connected	/	128	/
	Fully connected	/	num_classes	/

(b) Model 2

Module	Layer type	Kernel size	Kernel number	Activation	Normalization
Feature extractor	Convolution	3×1	16	ReLU	BN
	Max-pooling	2×1	/	/	/
	Convolution	3×1	32	ReLU	BN
	Max-pooling	2×1	/	/	/
	Convolution	3×1	64	ReLU	BN
	Max-pooling	2×1	/	/	/
	Convolution	3×1	64	ReLU	BN
	Max-pooling	2×1	/	/	/
	Flatten	/	/	/	/
Classifier	Fully connected	/	128	ReLU	/
	Fully connected	/	num_classes	/	/

(c) Model 3

Module	Layer type	Kernel size	Kernel number	Activation	Normalization
Feature	Convolution	64×1	16	ReLU	BN

extractor	Max-pooling	2×1	/	/	/
	Convolution	16×1	32	ReLU	BN
	Max-pooling	2×1	/	/	/
	Convolution	5×1	64	ReLU	BN
	Max-pooling	2×1	/	/	/
	Convolution	5×1	64	ReLU	BN
	Adaptive Max-pooling	/	/	/	/
	Fully connected	/	128	/	/
Classifier	Fully connected	/	num_classes	/	/

B2 Impact of Statistical Heterogeneity

B2.1 Top-1 Classification Accuracy and Standard Deviations

(a) CWRU

Task	FedAvg	FedAM	DACS	FedSR	FADGN	FDDG	FedDGGA	FedIIR	FedGMA	FedGM	FedDGFD
T1-A1	99.73 \pm 0.16	99.73 \pm 0.31	98.67 \pm 0.58	97.26 \pm 0.74	99.93 \pm 0.08	99.86 \pm 0.08	91.99 \pm 24.72	99.66 \pm 0.32	99.80 \pm 0.32	13.58 \pm 6.71	100.00 \pm 0.00
T1-A2	81.37 \pm 3.39	80.75 \pm 1.13	86.55 \pm 0.93	80.45 \pm 1.61	80.76 \pm 1.23	81.46 \pm 0.53	83.65 \pm 2.66	81.98 \pm 2.41	81.34 \pm 2.06	44.90 \pm 11.76	78.89 \pm 0.41
T1-A3	71.54 \pm 7.56	77.62 \pm 2.11	79.10 \pm 1.59	70.99 \pm 3.98	67.81 \pm 3.44	76.10 \pm 4.17	52.91 \pm 19.99	75.53 \pm 2.91	72.46 \pm 3.43	42.93 \pm 6.61	63.69 \pm 0.78
T1-A4	76.81 \pm 7.37	78.34 \pm 3.43	79.71 \pm 1.71	75.19 \pm 2.72	77.19 \pm 3.31	80.56 \pm 2.54	42.14 \pm 26.46	78.55 \pm 5.24	77.19 \pm 4.74	42.31 \pm 14.53	54.96 \pm 0.45
T1-A5	59.54 \pm 9.91	76.42 \pm 3.56	71.92 \pm 2.56	66.40 \pm 2.51	64.03 \pm 5.48	70.96 \pm 4.89	50.55 \pm 11.03	65.78 \pm 8.52	62.78 \pm 6.48	40.26 \pm 2.18	43.19 \pm 1.70
T1-A6	44.11 \pm 6.60	50.15 \pm 4.34	56.59 \pm 4.83	55.27 \pm 3.28	49.91 \pm 5.11	40.52 \pm 0.48	55.81 \pm 3.17	35.12 \pm 5.05	41.89 \pm 6.70	25.63 \pm 8.02	12.51 \pm 0.02
T1-A7	46.83 \pm 7.54	54.29 \pm 3.37	70.69 \pm 1.47	63.62 \pm 1.46	55.32 \pm 3.75	51.43 \pm 1.79	47.83 \pm 21.75	44.71 \pm 10.84	41.64 \pm 8.03	27.41 \pm 4.71	25.26 \pm 0.46
T1-A8	74.57 \pm 2.91	73.42 \pm 2.01	80.06 \pm 2.05	74.57 \pm 3.72	63.88 \pm 3.73	66.09 \pm 0.73	70.26 \pm 17.78	69.55 \pm 6.95	59.98 \pm 7.16	35.91 \pm 9.79	37.58 \pm 0.19
T1-A9	77.40 \pm 3.31	76.43 \pm 3.25	86.03 \pm 1.24	74.76 \pm 3.74	74.74 \pm 3.00	77.25 \pm 0.88	75.57 \pm 19.21	77.21 \pm 4.12	69.13 \pm 5.74	29.24 \pm 6.83	49.94 \pm 0.48
T1-A10	86.95 \pm 2.93	86.90 \pm 1.16	89.51 \pm 0.75	84.18 \pm 2.20	82.84 \pm 5.12	90.75 \pm 0.53	88.60 \pm 1.67	88.44 \pm 1.16	80.57 \pm 6.47	27.64 \pm 4.99	62.92 \pm 0.55
T1-A11	89.24 \pm 1.42	89.08 \pm 0.92	90.00 \pm 0.58	88.82 \pm 1.29	87.36 \pm 2.06	89.87 \pm 0.55	90.25 \pm 1.21	89.22 \pm 1.39	86.33 \pm 3.33	28.07 \pm 5.22	74.94 \pm 0.87
T1-A12	89.12 \pm 1.09	89.11 \pm 0.78	90.58 \pm 1.05	89.01 \pm 1.32	89.25 \pm 1.11	89.26 \pm 0.80	75.82 \pm 28.34	88.88 \pm 2.68	88.20 \pm 1.21	28.44 \pm 5.60	86.44 \pm 0.47
T1-A13	89.45 \pm 1.82	88.13 \pm 0.93	86.37 \pm 0.57	85.11 \pm 1.30	90.10 \pm 1.75	84.12 \pm 0.71	81.13 \pm 20.44	87.52 \pm 1.48	86.39 \pm 5.81	39.15 \pm 9.90	69.58 \pm 0.73

T1-A14	87.84 ± 0.95	88.43 ± 1.15	86.21 ± 0.65	83.83 ± 1.15	87.61 ± 0.99	82.70 ± 0.78	86.35 ± 2.38	84.96 ± 1.83	84.37 ± 3.25	40.79 ± 10.63	63.22 ± 1.65
T1-A15	83.79 ± 1.86	85.24 ± 1.75	87.26 ± 0.58	79.93 ± 1.25	82.15 ± 2.97	83.73 ± 1.19	66.20 ± 28.73	84.16 ± 1.79	83.69 ± 3.07	37.34 ± 13.13	62.11 ± 3.69
T1-A16	78.90 ± 4.52	86.04 ± 3.77	85.07 ± 1.65	75.33 ± 1.73	76.32 ± 2.67	84.95 ± 0.69	77.21 ± 2.57	80.55 ± 3.28	81.43 ± 3.18	37.07 ± 11.69	65.37 ± 1.19
T1-B1	44.38 ± 6.51	42.83 ± 4.87	53.04 ± 6.86	39.99 ± 5.88	54.25 ± 5.83	27.39 ± 1.80	10.00 ± 0.00	47.23 ± 3.19	47.63 ± 2.88	11.21 ± 2.73	45.03 ± 6.71
T1-B2	60.20 ± 8.25	59.52 ± 8.94	93.77 ± 3.73	64.55 ± 3.32	90.09 ± 4.37	97.98 ± 0.55	97.79 ± 1.35	73.98 ± 6.57	54.52 ± 11.31	11.53 ± 2.58	63.45 ± 18.55
T1-B3	88.52 ± 6.37	90.66 ± 6.59	97.60 ± 0.66	92.16 ± 2.65	88.99 ± 1.59	96.24 ± 1.13	82.59 ± 32.51	91.04 ± 4.27	88.24 ± 7.42	10.62 ± 1.13	85.33 ± 10.14
T1-B4	99.18 ± 0.84	97.55 ± 3.15	97.78 ± 0.85	95.25 ± 1.29	99.49 ± 0.32	99.68 ± 0.10	98.44 ± 0.87	98.01 ± 2.99	92.43 ± 6.39	14.14 ± 5.13	99.43 ± 1.07
T2-A1	99.94 ± 0.05	99.91 ± 0.03	99.94 ± 0.03	98.68 ± 0.98	99.98 ± 0.02	99.89 ± 0.04	92.43 ± 24.85	99.95 ± 0.04	99.95 ± 0.04	13.91 ± 5.10	99.99 ± 0.02
T2-A2	86.33 ± 2.44	84.36 ± 1.24	89.39 ± 1.00	85.51 ± 1.51	84.34 ± 1.42	88.12 ± 2.50	68.86 ± 28.40	86.74 ± 2.41	85.33 ± 2.28	43.26 ± 6.72	80.04 ± 0.21
T2-A3	77.26 ± 3.22	81.27 ± 0.66	85.16 ± 1.52	80.78 ± 2.38	73.20 ± 3.46	80.97 ± 4.93	59.50 ± 19.53	80.15 ± 3.00	73.77 ± 7.45	41.92 ± 18.74	66.35 ± 0.33
T2-A4	83.20 ± 3.91	83.71 ± 1.58	88.02 ± 1.01	83.59 ± 1.77	83.37 ± 1.54	85.78 ± 1.41	67.40 ± 15.80	83.20 ± 3.55	82.91 ± 1.46	43.93 ± 11.66	56.68 ± 0.57
T2-A5	69.66 ± 5.02	81.69 ± 3.71	83.53 ± 0.92	74.28 ± 3.06	64.62 ± 5.10	80.42 ± 2.72	46.42 ± 18.37	72.54 ± 7.85	66.17 ± 8.39	40.41 ± 12.75	48.32 ± 1.06
T2-A6	37.91 ± 5.78	39.88 ± 4.06	64.56 ± 4.68	51.58 ± 4.10	42.29 ± 5.22	39.72 ± 0.54	53.96 ± 3.75	26.65 ± 5.80	44.33 ± 12.26	26.11 ± 2.34	12.57 ± 0.19
T2-A7	44.70 ± 7.19	56.78 ± 6.10	72.57 ± 1.36	63.32 ± 4.37	54.13 ± 2.21	51.85 ± 1.16	45.44 ± 21.29	46.85 ± 3.87	48.31 ± 7.41	26.25 ± 3.75	25.76 ± 2.29
T2-A8	75.94 ± 2.40	75.48 ± 3.06	81.35 ± 2.49	79.06 ± 3.02	68.47 ± 3.58	66.23 ± 0.66	72.28 ± 19.34	72.71 ± 7.20	62.96 ± 8.08	28.38 ± 5.15	38.25 ± 1.66
T2-A9	80.63 ± 2.51	82.67 ± 3.38	87.68 ± 0.76	77.45 ± 2.30	75.45 ± 5.70	77.21 ± 1.23	70.22 ± 28.92	77.53 ± 3.89	70.38 ± 5.75	26.26 ± 3.75	49.57 ± 0.89
T2-A10	88.42 ± 1.18	89.29 ± 0.67	90.33 ± 0.44	87.28 ± 1.53	86.33 ± 3.79	91.49 ± 0.57	80.37 ± 24.01	88.33 ± 0.81	81.48 ± 6.51	30.07 ± 10.15	62.89 ± 0.48
T2-A11	90.27 ± 1.72	88.08 ± 4.22	90.06 ± 0.21	89.79 ± 0.75	88.46 ± 1.23	90.76 ± 0.83	91.32 ± 1.31	88.97 ± 2.42	83.44 ± 5.54	30.70 ± 11.32	76.85 ± 1.43
T2-A12	90.27 ± 1.10	89.40 ± 0.97	90.51 ± 0.45	90.28 ± 0.79	89.57 ± 0.88	90.55 ± 0.61	82.35 ± 24.71	90.61 ± 0.83	89.88 ± 0.67	30.54 ± 8.66	87.01 ± 0.73
T2-A13	91.37 ± 2.00	89.01 ± 2.41	86.59 ± 0.78	90.49 ± 1.23	92.72 ± 0.37	86.95 ± 1.28	82.07 ± 21.89	87.29 ± 1.94	89.99 ± 1.95	43.68 ± 6.97	71.38 ± 0.17

T2-A14	92.14 ± 1.12	91.90 ± 1.14	91.10 ± 0.62	90.69 ± 1.07	89.51 ± 1.31	86.68 ± 1.74	90.44 ± 2.30	88.79 ± 1.06	89.08 ± 1.74	40.06 ± 8.08	70.77 ± 0.17
T2-A15	87.16 ± 2.16	89.16 ± 2.40	91.72 ± 0.68	86.75 ± 2.37	85.73 ± 2.68	87.69 ± 0.64	65.57 ± 32.05	87.67 ± 1.86	84.68 ± 1.61	33.67 ± 7.50	68.90 ± 0.65
T2-A16	84.55 ± 2.08	91.25 ± 0.76	92.42 ± 0.34	80.50 ± 2.01	80.63 ± 0.81	89.14 ± 0.70	82.74 ± 1.51	84.74 ± 1.54	80.53 ± 2.80	36.91 ± 6.32	69.80 ± 0.71
T2-B1	46.96 ± 5.70	47.39 ± 4.80	54.61 ± 4.70	41.01 ± 5.55	57.09 ± 6.93	30.05 ± 3.53	10.00 ± 0.00	48.02 ± 5.03	50.13 ± 5.36	12.97 ± 4.53	47.80 ± 3.77
T2-B2	57.76 ± 9.12	61.48 ± 10.82	98.99 ± 1.93	66.63 ± 4.47	93.52 ± 5.65	98.42 ± 0.30	99.79 ± 0.18	70.59 ± 10.16	50.89 ± 11.02	12.35 ± 3.89	63.27 ± 15.59
T2-B3	87.63 ± 5.89	92.67 ± 6.41	99.81 ± 0.13	95.89 ± 3.07	92.60 ± 4.63	98.10 ± 0.37	83.03 ± 34.43	91.53 ± 5.84	85.63 ± 7.86	12.05 ± 3.98	94.07 ± 7.02
T2-B4	97.92 ± 4.05	97.95 ± 3.99	99.92 ± 0.10	98.24 ± 1.02	98.83 ± 3.14	99.98 ± 0.03	99.81 ± 0.17	99.91 ± 0.08	91.96 ± 5.98	13.51 ± 3.91	99.98 ± 0.02
T3-A1	99.86 ± 0.07	99.87 ± 0.04	99.86 ± 0.03	98.91 ± 0.27	99.83 ± 0.07	99.57 ± 0.12	99.67 ± 0.14	99.85 ± 0.09	99.88 ± 0.04	17.24 ± 5.69	99.87 ± 0.03
T3-A2	84.77 ± 1.19	81.22 ± 0.40	85.35 ± 0.62	83.16 ± 1.66	83.07 ± 0.83	84.88 ± 2.62	78.31 ± 18.53	83.91 ± 1.14	82.48 ± 2.17	37.92 ± 10.61	79.70 ± 0.30
T3-A3	74.79 ± 3.40	77.02 ± 2.06	80.18 ± 0.84	78.30 ± 0.73	72.34 ± 4.33	78.73 ± 2.85	67.55 ± 3.10	74.77 ± 4.01	73.57 ± 6.22	37.79 ± 10.20	65.86 ± 0.30
T3-A4	79.77 ± 2.91	79.54 ± 2.19	84.20 ± 0.69	81.40 ± 1.36	74.45 ± 1.96	81.54 ± 2.99	67.47 ± 15.22	79.18 ± 4.47	77.04 ± 4.27	39.87 ± 8.65	54.65 ± 1.06
T3-A5	75.74 ± 2.95	79.62 ± 2.57	82.66 ± 1.30	76.95 ± 3.17	70.68 ± 2.64	79.86 ± 3.32	61.17 ± 4.49	73.68 ± 2.61	72.08 ± 7.79	47.59 ± 8.96	48.66 ± 0.81
T3-A6	39.62 ± 6.49	47.61 ± 8.39	63.09 ± 4.98	53.49 ± 3.28	51.18 ± 4.94	40.24 ± 0.79	52.47 ± 13.32	28.58 ± 6.61	42.39 ± 7.04	25.48 ± 5.21	12.51 ± 0.02
T3-A7	48.79 ± 7.30	57.96 ± 6.27	70.43 ± 3.18	63.23 ± 5.12	52.25 ± 7.23	50.45 ± 3.20	24.32 ± 19.72	44.90 ± 8.56	45.90 ± 8.24	27.40 ± 7.01	26.36 ± 3.82
T3-A8	74.95 ± 3.34	75.97 ± 2.90	85.09 ± 2.22	79.45 ± 1.20	61.50 ± 5.67	65.39 ± 0.78	78.93 ± 3.68	74.05 ± 5.52	62.23 ± 8.01	25.03 ± 5.59	40.92 ± 5.23
T3-A9	77.64 ± 7.51	79.03 ± 2.68	85.18 ± 2.48	75.56 ± 2.78	70.96 ± 5.78	76.65 ± 0.79	74.43 ± 19.77	78.09 ± 4.59	67.52 ± 6.62	26.12 ± 2.90	51.26 ± 3.87
T3-A10	88.31 ± 1.29	88.20 ± 1.18	91.26 ± 0.34	84.96 ± 1.40	82.67 ± 6.21	90.70 ± 0.76	88.80 ± 1.15	88.20 ± 0.82	80.06 ± 7.19	27.54 ± 7.40	63.62 ± 1.73
T3-A11	87.55 ± 4.52	89.62 ± 0.66	90.85 ± 0.37	88.93 ± 1.15	86.68 ± 2.59	89.95 ± 0.72	76.17 ± 30.02	84.82 ± 4.47	81.67 ± 4.89	29.90 ± 5.99	76.17 ± 2.61
T3-A12	91.42 ± 1.27	89.90 ± 0.86	91.96 ± 0.61	90.92 ± 0.84	89.98 ± 0.78	89.55 ± 0.67	76.55 ± 30.20	91.14 ± 1.06	90.40 ± 0.56	32.96 ± 8.50	86.89 ± 0.99
T3-A13	91.69 ± 2.22	88.68 ± 1.86	87.40 ± 0.64	91.29 ± 0.74	92.40 ± 0.92	87.36 ± 1.98	88.78 ± 2.27	87.00 ± 2.14	90.51 ± 2.32	34.63 ± 5.35	71.20 ± 0.22

T3-A14	93.10 ± 0.46	92.78 ± 0.74	91.88 ± 0.69	91.76 ± 1.14	91.43 ± 1.51	86.16 ± 0.53	77.72 ± 28.79	90.06 ± 1.57	90.72 ± 2.20	42.80 ± 8.19	70.94 ± 0.31
T3-A15	88.66 ± 4.36	90.14 ± 1.68	92.46 ± 0.85	88.32 ± 1.32	89.87 ± 1.72	88.85 ± 1.20	48.98 ± 35.43	88.77 ± 2.41	86.78 ± 3.46	31.83 ± 7.83	70.30 ± 0.84
T3-A16	85.27 ± 1.40	89.21 ± 2.04	91.96 ± 0.65	81.69 ± 2.78	81.93 ± 1.42	89.86 ± 0.65	81.37 ± 2.90	84.39 ± 1.99	83.68 ± 0.80	33.31 ± 10.50	70.41 ± 0.22
T3-B1	46.52 ± 5.29	43.16 ± 5.61	52.66 ± 7.24	43.93 ± 7.43	57.66 ± 6.73	27.16 ± 0.77	10.00 ± 0.00	45.86 ± 4.51	48.91 ± 1.01	11.68 ± 3.23	50.03 ± 3.99
T3-B2	62.61 ± 7.35	54.69 ± 10.23	94.54 ± 1.90	64.20 ± 12.93	86.79 ± 4.29	88.42 ± 3.06	88.52 ± 24.99	64.36 ± 9.94	53.17 ± 8.81	16.72 ± 3.79	56.65 ± 15.24
T3-B3	91.62 ± 7.38	91.67 ± 6.03	99.87 ± 0.06	94.87 ± 4.57	91.52 ± 3.97	96.94 ± 0.55	75.14 ± 39.89	91.67 ± 5.94	88.29 ± 5.05	11.03 ± 2.99	94.16 ± 7.21
T3-B4	97.81 ± 4.05	97.85 ± 3.95	99.87 ± 0.06	98.27 ± 0.66	99.80 ± 0.08	99.55 ± 0.29	99.61 ± 0.15	99.83 ± 0.05	92.81 ± 6.45	11.83 ± 3.59	99.88 ± 0.07
T4-A1	97.86 ± 0.99	98.64 ± 0.56	98.36 ± 0.36	93.59 ± 1.32	97.84 ± 0.57	99.50 ± 0.11	95.72 ± 1.59	97.34 ± 1.07	96.24 ± 3.22	15.72 ± 9.08	98.47 ± 0.45
T4-A2	83.92 ± 4.72	82.67 ± 1.43	89.88 ± 1.15	81.49 ± 2.69	80.58 ± 3.18	89.31 ± 1.48	78.62 ± 4.98	83.52 ± 4.87	82.45 ± 3.29	41.67 ± 10.83	77.86 ± 1.24
T4-A3	76.53 ± 5.21	79.57 ± 1.04	83.64 ± 1.18	80.02 ± 1.20	77.44 ± 2.62	80.56 ± 1.97	63.58 ± 8.05	78.57 ± 2.66	73.86 ± 3.84	38.51 ± 14.11	65.53 ± 0.97
T4-A4	78.66 ± 4.24	80.75 ± 4.51	88.33 ± 0.81	81.29 ± 1.71	78.69 ± 3.21	84.19 ± 1.81	69.05 ± 3.70	77.58 ± 5.12	76.22 ± 6.48	47.34 ± 15.47	54.20 ± 2.26
T4-A5	75.74 ± 3.27	81.03 ± 5.90	85.90 ± 0.52	76.54 ± 1.76	76.45 ± 2.41	82.21 ± 1.63	54.46 ± 8.62	76.48 ± 6.73	74.84 ± 9.52	43.51 ± 7.18	48.38 ± 0.69
T4-A6	43.22 ± 6.68	43.00 ± 6.38	60.69 ± 6.78	54.02 ± 6.61	45.33 ± 4.39	38.28 ± 4.05	46.81 ± 16.37	31.67 ± 6.85	44.92 ± 5.22	27.43 ± 4.74	12.51 ± 0.02
T4-A7	45.98 ± 6.37	58.03 ± 4.60	70.39 ± 3.39	65.55 ± 4.40	60.81 ± 5.31	48.59 ± 5.06	23.18 ± 17.59	40.95 ± 4.37	49.28 ± 12.50	26.55 ± 4.11	25.00 ± 0.00
T4-A8	75.66 ± 3.89	77.17 ± 3.33	85.40 ± 2.17	78.95 ± 4.43	71.07 ± 4.64	64.27 ± 1.28	80.49 ± 3.44	72.57 ± 5.33	65.17 ± 15.22	30.20 ± 5.87	37.77 ± 0.83
T4-A9	80.31 ± 2.76	78.05 ± 6.28	87.12 ± 1.15	79.74 ± 3.44	76.21 ± 4.92	75.73 ± 1.24	81.64 ± 1.96	79.09 ± 4.30	68.06 ± 9.31	24.81 ± 0.63	50.29 ± 0.29
T4-A10	87.79 ± 1.79	87.96 ± 0.63	90.85 ± 0.52	86.83 ± 1.59	85.38 ± 3.76	90.87 ± 0.38	88.16 ± 1.57	87.49 ± 1.26	82.25 ± 6.80	29.34 ± 5.28	62.48 ± 0.77
T4-A11	89.59 ± 1.20	88.05 ± 3.56	90.45 ± 0.49	89.79 ± 0.69	89.24 ± 0.90	90.25 ± 1.13	83.82 ± 22.57	87.47 ± 3.52	81.31 ± 4.51	28.21 ± 5.73	77.53 ± 5.11
T4-A12	90.34 ± 0.46	89.67 ± 0.57	90.44 ± 0.67	89.67 ± 0.49	89.73 ± 0.70	89.63 ± 1.75	83.99 ± 22.63	91.05 ± 0.90	89.98 ± 0.55	28.84 ± 5.05	87.43 ± 0.13
T4-A13	89.03 ± 2.02	89.86 ± 2.08	88.71 ± 0.91	91.39 ± 1.12	90.07 ± 2.28	88.01 ± 2.25	88.22 ± 1.34	87.00 ± 1.87	92.26 ± 1.25	38.29 ± 10.59	71.44 ± 0.24

T4-A14	93.34 ± 1.13	92.54 ± 0.86	92.73 ± 0.42	92.72 ± 1.04	89.49 ± 2.23	86.38 ± 1.11	79.22 ± 28.00	89.77 ± 1.24	91.76 ± 1.23	38.06 ± 10.00	71.40 ± 0.22
T4-A15	89.82 ± 2.26	88.94 ± 2.20	92.41 ± 0.45	88.14 ± 1.53	87.50 ± 2.53	88.08 ± 1.62	40.76 ± 34.07	90.42 ± 1.98	87.47 ± 1.98	36.23 ± 12.87	68.95 ± 0.60
T4-A16	84.32 ± 3.48	84.27 ± 2.79	90.06 ± 0.95	80.11 ± 2.77	81.15 ± 1.85	89.24 ± 1.44	82.37 ± 3.22	83.30 ± 3.08	82.94 ± 1.73	28.34 ± 7.62	69.80 ± 0.49
T4-B1	48.48 ± 4.54	46.40 ± 6.74	54.95 ± 3.60	40.86 ± 5.24	63.90 ± 7.00	26.81 ± 1.41	10.00 ± 0.00	50.80 ± 4.37	50.10 ± 2.06	15.85 ± 7.74	46.52 ± 9.79
T4-B2	65.13 ± 9.37	59.77 ± 9.42	94.35 ± 2.23	67.83 ± 4.23	90.77 ± 3.61	93.36 ± 1.69	79.12 ± 30.93	69.57 ± 12.14	51.80 ± 9.78	13.40 ± 4.44	52.01 ± 9.09
T4-B3	84.54 ± 5.72	83.10 ± 3.62	98.15 ± 0.61	89.40 ± 1.51	89.88 ± 3.71	96.69 ± 1.37	87.01 ± 23.33	88.78 ± 4.35	85.95 ± 4.51	13.83 ± 4.69	93.01 ± 5.23
T4-B4	96.12 ± 4.03	96.63 ± 4.72	98.39 ± 0.46	92.69 ± 2.48	98.49 ± 0.48	99.49 ± 0.12	97.13 ± 0.42	97.80 ± 0.77	91.34 ± 5.04	13.31 ± 4.22	98.70 ± 0.94
Average	78.20	79.55	85.71	79.48	79.62	79.80	71.23	77.86	75.25	29.04	63.67
Std	16.73	15.62	11.71	14.12	14.28	19.15	22.08	17.69	16.25	10.80	22.37

(b) PHM09

Task	FedAvg	FedAM	DACS	FedSR	FADGN	FDDG	FedDGGA	FedIIR	FedGMA	FedGM	FedDGFD
T1-A1	68.44 ± 3.64	69.27 ± 3.46	57.43 ± 1.02	57.93 ± 1.58	67.21 ± 3.71	56.52 ± 6.57	22.99 ± 14.63	58.59 ± 1.02	68.85 ± 3.36	30.89 ± 8.94	67.65 ± 0.94
T1-A2	60.72 ± 1.71	68.81 ± 3.42	96.06 ± 5.51	62.68 ± 3.70	57.29 ± 1.48	57.90 ± 3.84	0.00 ± 0.00	58.62 ± 5.03	62.02 ± 1.81	94.92 ± 14.97	49.97 ± 0.46
T1-A3	55.01 ± 2.45	59.79 ± 1.18	71.91 ± 4.69	54.08 ± 3.85	52.35 ± 0.66	51.41 ± 1.90	0.00 ± 0.00	52.10 ± 1.69	54.22 ± 1.91	73.44 ± 15.07	32.00 ± 0.42
T1-A4	51.30 ± 2.87	57.49 ± 2.22	78.85 ± 4.91	58.60 ± 3.06	50.72 ± 1.71	50.34 ± 2.82	0.00 ± 0.00	55.21 ± 1.01	51.58 ± 2.32	86.72 ± 9.47	31.55 ± 0.41
T1-A5	51.00 ± 4.37	48.96 ± 3.75	64.02 ± 4.90	57.86 ± 12.58	3.80 ± 8.70	41.02 ± 19.49	35.80 ± 7.30	36.22 ± 2.17	28.83 ± 9.94	61.11 ± 14.27	0.00 ± 0.00
T1-A6	81.24 ± 3.23	78.89 ± 5.27	64.85 ± 0.50	65.36 ± 0.61	54.88 ± 6.15	35.96 ± 5.29	61.69 ± 8.72	66.55 ± 0.13	78.28 ± 8.12	49.82 ± 16.49	33.68 ± 0.29
T1-A7	66.97 ± 0.21	66.99 ± 0.20	66.67 ± 0.00	69.44 ± 0.67	68.63 ± 5.85	53.31 ± 11.96	73.46 ± 8.54	66.73 ± 0.09	66.89 ± 0.17	80.33 ± 12.62	66.28 ± 0.39
T1-A8	67.02 ± 0.24	66.92 ± 0.21	66.67 ± 0.00	70.32 ± 0.78	69.26 ± 6.36	57.41 ± 4.97	75.80 ± 7.71	67.48 ± 0.24	67.20 ± 0.29	77.47 ± 13.75	66.27 ± 0.58
T1-A9	66.33 ± 0.59	64.36 ± 1.32	78.20 ± 3.77	64.44 ± 1.27	65.45 ± 1.09	54.28 ± 6.31	26.04 ± 31.89	64.59 ± 1.64	65.01 ± 1.44	79.35 ± 18.64	63.25 ± 0.76
T1-A10	65.87 ± 0.99	59.92 ± 6.43	82.31 ± 4.67	72.84 ± 1.18	66.11 ± 2.45	56.10 ± 3.04	0.00 ± 0.00	72.27 ± 1.84	66.27 ± 2.75	68.14 ± 16.91	60.76 ± 1.28
T1-A11	59.62 ± 1.63	52.83 ± 3.11	63.25 ± 10.26	53.93 ± 2.63	57.56 ± 2.81	52.16 ± 6.19	4.72 ± 14.16	56.54 ± 2.95	57.25 ± 1.86	63.47 ± 16.94	53.25 ± 1.25
T1-B1	33.02 ± 8.58	32.38 ± 8.37	18.32 ± 4.97	21.53 ± 7.25	21.35 ± 4.15	32.70 ± 3.60	37.95 ± 2.52	33.93 ± 0.61	24.64 ± 6.61	20.92 ± 3.01	38.21 ± 0.82
T1-B2	43.31 ± 1.51	44.80 ± 1.57	16.67 ± 0.00	27.14 ± 2.13	42.96 ± 3.03	37.07 ± 3.15	42.74 ± 1.69	38.62 ± 1.25	39.94 ± 7.38	19.67 ± 1.00	25.60 ± 2.28
T1-B3	42.41 ± 3.36	41.89 ± 3.09	16.67 ± 0.00	27.14 ± 8.62	44.76 ± 5.38	49.09 ± 4.45	57.20 ± 4.60	34.65 ± 1.96	39.22 ± 2.18	23.09 ± 6.46	43.58 ± 3.57
T1-B4	49.30 ± 2.02	47.68 ± 1.80	36.30 ± 2.62	42.37 ± 0.92	53.82 ± 7.18	56.09 ± 4.52	37.43 ± 18.19	41.41 ± 1.04	49.31 ± 5.82	27.49 ± 9.26	52.19 ± 6.17
T2-A1	76.51 ± 1.71	76.17 ± 2.16	69.64 ± 2.79	67.75 ± 1.64	77.13 ± 2.66	58.09 ± 5.73	35.17 ± 26.86	70.47 ± 0.88	75.89 ± 2.22	33.67 ± 8.95	77.83 ± 0.47
T2-A2	58.40 ± 2.75	61.79 ± 1.84	98.69 ± 2.63	62.12 ± 6.69	55.14 ± 0.73	55.41 ± 1.76	0.00 ± 0.00	55.89 ± 3.16	55.72 ± 1.80	99.95 ± 0.10	50.08 ± 0.39
T2-A3	50.74 ± 2.07	53.80 ± 2.28	75.46 ± 2.23	52.11 ± 4.30	49.80 ± 0.93	48.43 ± 2.15	0.00 ± 0.00	49.28 ± 1.49	50.46 ± 2.16	77.37 ± 14.62	30.73 ± 1.15

T2-A4	52.09 ± 3.00	52.13 ± 1.70	82.35 ± 2.81	59.17 ± 2.91	49.12 ± 1.24	47.78 ± 2.28	4.60 ± 13.80	54.91 ± 0.90	51.08 ± 2.33	94.05 ± 7.89	30.49 ± 0.66
T2-A5	44.49 ± 5.67	46.03 ± 3.40	66.49 ± 0.36	63.97 ± 1.86	8.52 ± 16.11	41.71 ± 15.00	32.42 ± 7.88	38.52 ± 9.75	32.82 ± 22.79	59.41 ± 13.01	0.00 ± 0.00
T2-A6	74.85 ± 6.91	74.82 ± 5.27	62.94 ± 2.97	63.81 ± 1.07	54.45 ± 4.92	31.90 ± 4.94	59.73 ± 9.79	65.48 ± 0.44	84.33 ± 9.37	49.34 ± 15.82	33.30 ± 0.40
T2-A7	68.70 ± 4.88	67.03 ± 0.32	66.67 ± 0.00	69.89 ± 1.20	69.82 ± 7.53	57.36 ± 8.22	63.89 ± 32.70	66.67 ± 0.00	67.05 ± 0.27	81.91 ± 11.83	66.55 ± 0.26
T2-A8	66.79 ± 0.32	66.81 ± 0.25	66.67 ± 0.00	72.86 ± 1.50	69.79 ± 8.74	57.57 ± 7.20	76.86 ± 9.70	67.10 ± 0.23	66.55 ± 0.28	75.67 ± 7.74	66.63 ± 0.38
T2-A9	61.63 ± 2.76	56.05 ± 3.92	76.57 ± 9.41	63.22 ± 0.89	63.89 ± 2.37	47.59 ± 9.90	52.19 ± 26.21	64.78 ± 0.88	61.58 ± 2.79	76.55 ± 13.47	55.07 ± 2.83
T2-A10	65.05 ± 2.36	58.42 ± 4.46	80.68 ± 7.17	66.37 ± 2.02	65.18 ± 1.19	53.79 ± 6.25	0.00 ± 0.00	68.62 ± 2.12	62.94 ± 5.30	65.36 ± 19.24	51.84 ± 3.01
T2-A11	59.46 ± 3.92	50.87 ± 3.35	58.58 ± 6.64	46.92 ± 2.06	54.72 ± 3.91	50.28 ± 6.73	9.71 ± 19.52	46.89 ± 2.44	55.86 ± 5.19	61.93 ± 14.59	48.42 ± 2.65
T2-B1	31.59 ± 7.78	34.60 ± 5.21	18.79 ± 6.37	19.95 ± 6.40	21.20 ± 4.00	32.89 ± 2.18	38.56 ± 5.83	33.36 ± 0.78	24.45 ± 8.18	21.56 ± 5.86	38.52 ± 1.00
T2-B2	50.15 ± 1.56	51.46 ± 2.22	16.67 ± 0.00	37.59 ± 4.65	47.67 ± 5.00	39.66 ± 2.41	56.24 ± 1.81	44.12 ± 3.64	46.55 ± 5.43	19.67 ± 1.00	35.08 ± 2.30
T2-B3	45.36 ± 1.82	44.92 ± 3.88	16.67 ± 0.00	23.70 ± 8.64	45.84 ± 2.09	49.84 ± 4.30	64.92 ± 4.55	34.58 ± 1.27	40.54 ± 1.37	19.67 ± 1.00	41.15 ± 5.67
T2-B4	56.18 ± 2.90	57.03 ± 0.39	36.45 ± 3.73	46.08 ± 1.40	60.46 ± 7.60	57.06 ± 3.58	36.26 ± 21.32	44.75 ± 2.16	55.41 ± 3.66	25.76 ± 9.36	58.50 ± 4.80
T3-A1	77.75 ± 2.45	78.24 ± 0.66	70.41 ± 2.11	69.33 ± 0.90	78.52 ± 2.44	58.29 ± 2.46	28.89 ± 22.03	70.74 ± 0.86	77.29 ± 2.40	28.03 ± 8.09	75.68 ± 0.86
T3-A2	59.23 ± 2.27	62.72 ± 1.67	97.68 ± 3.02	62.03 ± 3.49	54.04 ± 0.99	53.32 ± 3.09	0.00 ± 0.00	58.82 ± 2.13	56.74 ± 1.52	92.59 ± 15.98	49.09 ± 0.45
T3-A3	48.03 ± 1.96	51.06 ± 1.81	74.62 ± 6.13	50.84 ± 2.26	45.94 ± 1.23	47.76 ± 1.97	0.00 ± 0.00	48.91 ± 2.01	48.98 ± 1.88	80.04 ± 11.53	28.18 ± 0.72
T3-A4	50.61 ± 4.02	53.88 ± 1.44	81.15 ± 4.65	57.39 ± 2.04	49.45 ± 1.94	49.86 ± 2.66	0.00 ± 0.00	55.46 ± 0.81	52.79 ± 2.89	84.50 ± 14.22	30.19 ± 0.87
T3-A5	43.33 ± 3.33	42.00 ± 3.03	66.53 ± 0.25	64.00 ± 6.41	10.51 ± 14.96	34.55 ± 8.63	34.37 ± 4.70	48.68 ± 9.60	34.08 ± 13.17	60.49 ± 12.40	0.00 ± 0.00
T3-A6	71.05 ± 6.11	69.99 ± 6.45	57.99 ± 8.29	63.59 ± 1.23	48.60 ± 4.30	29.31 ± 7.34	59.82 ± 4.79	64.69 ± 0.86	74.46 ± 14.73	57.66 ± 17.41	33.26 ± 0.31
T3-A7	69.36 ± 7.92	66.54 ± 0.33	66.86 ± 0.00	73.53 ± 1.94	73.37 ± 10.52	47.93 ± 14.46	74.26 ± 7.69	67.66 ± 1.67	66.57 ± 0.29	80.33 ± 9.29	66.30 ± 0.49
T3-A8	67.16 ± 0.66	66.94 ± 0.46	66.90 ± 0.12	72.37 ± 1.47	73.61 ± 11.38	58.25 ± 3.25	76.28 ± 8.92	67.06 ± 0.37	67.55 ± 2.45	79.59 ± 8.93	66.25 ± 0.37

T3-A9	64.93 ± 1.29	62.89 ± 1.38	75.63 ± 7.61	67.01 ± 1.22	64.73 ± 2.14	50.60 ± 6.56	31.70 ± 31.70	67.13 ± 1.25	63.45 ± 1.39	66.11 ± 15.50	60.75 ± 1.50
T3-A10	65.52 ± 2.12	59.04 ± 1.20	84.07 ± 8.77	67.22 ± 1.77	63.94 ± 3.04	47.61 ± 5.89	0.00 ± 0.00	67.02 ± 0.98	62.90 ± 2.85	70.26 ± 17.56	52.20 ± 3.18
T3-A11	52.63 ± 1.56	49.64 ± 3.25	64.51 ± 9.69	54.00 ± 2.95	53.02 ± 2.73	45.74 ± 8.04	16.45 ± 25.16	51.25 ± 2.24	53.29 ± 1.97	56.49 ± 22.13	48.82 ± 1.70
T3-B1	36.35 ± 2.04	34.59 ± 5.24	16.67 ± 0.00	21.18 ± 6.76	21.17 ± 2.99	31.74 ± 2.13	39.67 ± 6.32	30.81 ± 4.89	27.34 ± 8.69	19.76 ± 1.90	37.44 ± 1.14
T3-B2	47.02 ± 2.34	48.46 ± 2.66	16.67 ± 0.00	33.56 ± 4.58	47.95 ± 2.77	38.08 ± 2.61	55.31 ± 1.62	43.79 ± 1.61	43.79 ± 3.44	19.33 ± 1.33	35.41 ± 5.57
T3-B3	42.53 ± 1.67	44.38 ± 4.31	16.67 ± 0.00	24.92 ± 8.74	41.96 ± 3.19	47.56 ± 4.27	67.57 ± 3.46	36.67 ± 1.64	40.63 ± 1.71	19.33 ± 1.33	41.60 ± 7.21
T3-B4	55.29 ± 3.76	54.17 ± 3.87	35.41 ± 2.47	44.77 ± 1.58	60.25 ± 7.41	53.12 ± 4.87	57.64 ± 19.72	44.04 ± 3.47	57.44 ± 4.58	28.37 ± 9.78	59.34 ± 6.13
T4-A1	74.73 ± 0.78	73.39 ± 3.11	64.73 ± 1.09	63.75 ± 1.00	75.10 ± 2.14	54.11 ± 6.99	33.50 ± 23.67	66.97 ± 1.07	73.21 ± 2.84	34.05 ± 6.43	74.27 ± 1.01
T4-A2	61.27 ± 1.85	63.43 ± 2.67	98.68 ± 0.52	69.49 ± 3.71	55.48 ± 1.13	53.59 ± 2.83	0.00 ± 0.00	65.78 ± 1.25	59.22 ± 2.63	94.12 ± 15.13	49.09 ± 0.86
T4-A3	54.25 ± 2.17	53.24 ± 1.97	71.69 ± 2.93	53.78 ± 3.24	47.69 ± 1.41	46.38 ± 2.90	0.00 ± 0.00	49.67 ± 3.13	52.50 ± 2.03	79.75 ± 17.50	28.63 ± 1.20
T4-A4	53.54 ± 2.50	54.11 ± 1.70	81.25 ± 4.43	56.92 ± 2.05	49.12 ± 1.67	48.80 ± 2.49	0.00 ± 0.00	54.78 ± 0.96	52.78 ± 1.94	71.92 ± 16.62	29.70 ± 1.08
T4-A5	47.54 ± 3.17	43.73 ± 5.59	66.24 ± 0.58	65.35 ± 1.49	3.02 ± 5.81	38.47 ± 7.77	36.41 ± 4.70	47.45 ± 14.23	36.94 ± 16.24	48.13 ± 15.38	0.00 ± 0.00
T4-A6	65.88 ± 2.16	62.20 ± 2.73	62.37 ± 1.85	61.70 ± 5.86	55.76 ± 6.99	35.46 ± 2.86	55.25 ± 6.46	65.99 ± 0.30	79.40 ± 5.69	42.29 ± 13.43	33.32 ± 0.30
T4-A7	70.35 ± 8.89	67.56 ± 0.39	66.53 ± 0.13	74.98 ± 1.78	72.79 ± 9.37	57.53 ± 6.52	74.75 ± 8.64	67.78 ± 0.38	72.29 ± 10.81	76.90 ± 9.92	65.23 ± 0.39
T4-A8	67.70 ± 0.40	68.07 ± 0.36	66.69 ± 0.06	73.69 ± 1.86	73.13 ± 12.05	55.28 ± 5.02	78.24 ± 12.30	68.02 ± 1.26	67.69 ± 0.35	78.86 ± 13.05	66.11 ± 0.57
T4-A9	64.54 ± 2.31	63.64 ± 1.69	76.98 ± 6.90	66.59 ± 1.85	66.53 ± 1.89	48.66 ± 4.36	6.51 ± 19.53	65.17 ± 1.82	63.94 ± 1.30	61.79 ± 14.93	58.28 ± 2.04
T4-A10	64.05 ± 2.81	60.16 ± 2.00	76.60 ± 7.08	65.29 ± 1.49	61.69 ± 1.79	50.79 ± 4.52	10.38 ± 20.76	64.82 ± 1.31	63.40 ± 2.25	68.12 ± 20.92	40.73 ± 3.33
T4-A11	55.54 ± 1.87	51.96 ± 3.44	60.68 ± 9.71	47.54 ± 2.37	50.55 ± 5.81	46.82 ± 5.16	12.52 ± 19.13	44.89 ± 5.49	50.52 ± 5.85	65.91 ± 20.86	46.23 ± 1.84
T4-B1	33.37 ± 4.76	30.91 ± 7.46	21.33 ± 7.14	19.19 ± 4.82	23.46 ± 4.22	31.75 ± 2.11	35.00 ± 7.85	31.53 ± 2.27	23.72 ± 6.24	20.04 ± 2.69	36.95 ± 1.17
T4-B2	48.35 ± 3.75	47.96 ± 2.85	16.67 ± 0.00	32.57 ± 1.88	48.72 ± 5.15	39.26 ± 2.91	56.81 ± 2.84	43.81 ± 2.27	39.30 ± 4.17	19.33 ± 1.33	36.06 ± 4.79

T4-B3	43.93 ± 3.58	49.96 ± 4.27	16.67 ± 0.00	29.98 ± 8.90	43.76 ± 2.02	45.60 ± 3.77	60.25 ± 4.31	36.08 ± 2.72	39.76 ± 2.02	19.33 ± 1.33	39.40 ± 4.47
T4-B4	53.73 ± 2.61	54.60 ± 0.42	36.23 ± 2.69	43.21 ± 1.00	60.09 ± 9.92	51.46 ± 4.92	45.23 ± 22.07	44.68 ± 1.40	55.65 ± 7.59	23.46 ± 7.33	56.04 ± 4.98
Average	57.22	56.71	59.11	54.52	52.38	47.81	34.22	54.15	55.14	56.09	45.22
Std	11.63	11.24	24.49	16.17	17.89	8.27	26.57	12.46	14.78	25.65	18.38

(c) LW

Task	FedAvg	FedAM	DACS	FedSR	FADGN	FDDG	FedDGGA	FedIIR	FedGMA	FedGM	FedDGFD
T1-A1	92.32 \pm 0.79	92.46 \pm 0.71	95.29 \pm 0.51	88.23 \pm 1.59	90.92 \pm 1.31	82.73 \pm 2.57	90.32 \pm 1.34	92.67 \pm 0.70	92.71 \pm 0.67	35.28 \pm 11.66	95.03 \pm 0.99
T1-A2	53.75 \pm 4.78	55.31 \pm 4.62	63.83 \pm 3.70	58.83 \pm 4.13	57.55 \pm 3.42	00.00 \pm 00.00	47.81 \pm 3.27	59.22 \pm 4.13	48.98 \pm 4.13	50.23 \pm 13.64	62.24 \pm 3.53
T1-A3	43.83 \pm 1.63	45.08 \pm 1.39	55.98 \pm 2.39	51.65 \pm 2.30	42.74 \pm 2.17	29.12 \pm 13.28	42.81 \pm 2.53	45.25 \pm 1.83	40.61 \pm 4.37	77.56 \pm 7.05	38.44 \pm 3.10
T1-A4	53.13 \pm 2.32	55.07 \pm 0.73	60.11 \pm 1.35	55.50 \pm 1.78	52.90 \pm 0.95	38.45 \pm 14.29	20.97 \pm 25.69	54.16 \pm 2.71	48.81 \pm 5.81	81.60 \pm 14.83	31.51 \pm 0.42
T1-A5	50.06 \pm 0.19	50.00 \pm 0.00	50.01 \pm 0.15	49.49 \pm 0.80	49.23 \pm 1.74	00.00 \pm 00.00	43.40 \pm 15.20	50.00 \pm 0.00	50.58 \pm 2.71	50.26 \pm 1.24	24.91 \pm 0.34
T1-A6	55.16 \pm 4.48	56.48 \pm 3.50	53.11 \pm 2.92	53.31 \pm 3.37	27.81 \pm 1.28	35.35 \pm 3.98	19.17 \pm 19.26	54.79 \pm 2.80	25.00 \pm 0.00	25.00 \pm 0.00	25.12 \pm 0.33
T1-A7	78.83 \pm 2.63	78.52 \pm 2.70	79.81 \pm 1.97	77.55 \pm 2.07	65.77 \pm 2.22	49.37 \pm 2.66	65.21 \pm 32.79	77.69 \pm 2.56	67.08 \pm 5.81	54.83 \pm 3.34	44.54 \pm 1.22
T1-A8	80.48 \pm 1.43	80.02 \pm 1.34	85.92 \pm 0.99	77.47 \pm 1.86	75.95 \pm 1.81	64.25 \pm 2.42	75.79 \pm 1.45	80.04 \pm 2.00	77.23 \pm 1.78	64.78 \pm 13.59	71.26 \pm 0.65
T1-A9	94.38 \pm 0.58	94.92 \pm 1.92	94.38 \pm 2.68	92.81 \pm 3.27	90.83 \pm 1.91	00.00 \pm 00.00	86.95 \pm 29.04	97.03 \pm 1.25	92.34 \pm 3.58	100.00 \pm 0.00	99.95 \pm 0.16
T1-A10	53.75 \pm 5.71	48.98 \pm 5.00	56.80 \pm 4.36	37.58 \pm 6.22	73.59 \pm 3.85	00.00 \pm 00.00	67.03 \pm 5.69	55.39 \pm 4.60	74.69 \pm 5.97	72.44 \pm 29.03	58.80 \pm 4.16
T1-A11	32.27 \pm 6.08	34.06 \pm 2.55	27.34 \pm 2.29	20.86 \pm 4.50	32.08 \pm 5.24	00.00 \pm 00.00	37.19 \pm 6.89	31.25 \pm 4.28	23.98 \pm 4.94	50.00 \pm 44.40	20.94 \pm 5.16
T1-A12	28.75 \pm 4.95	30.86 \pm 3.15	23.52 \pm 3.52	24.69 \pm 3.09	32.66 \pm 2.38	00.00 \pm 00.00	35.86 \pm 3.23	28.12 \pm 3.01	27.81 \pm 3.91	30.99 \pm 29.11	24.79 \pm 3.17
T1-B1	70.55 \pm 11.32	69.54 \pm 12.39	63.77 \pm 15.96	47.63 \pm 5.75	81.01 \pm 1.18	38.93 \pm 2.08	84.71 \pm 1.55	74.24 \pm 5.79	45.04 \pm 24.56	25.00 \pm 0.00	26.88 \pm 1.87
T1-B2	69.64 \pm 3.08	70.89 \pm 3.27	85.66 \pm 1.23	62.76 \pm 4.13	71.67 \pm 2.49	62.39 \pm 3.06	63.45 \pm 1.29	70.37 \pm 2.88	52.84 \pm 17.19	25.00 \pm 0.00	75.08 \pm 3.20
T1-B3	87.67 \pm 0.95	90.32 \pm 1.21	95.77 \pm 0.79	87.26 \pm 1.78	88.13 \pm 2.08	70.49 \pm 3.46	86.39 \pm 1.28	90.05 \pm 1.17	89.30 \pm 1.56	25.00 \pm 0.00	91.88 \pm 3.51
T1-B4	90.67 \pm 1.84	91.92 \pm 1.10	94.57 \pm 0.65	88.01 \pm 1.69	87.60 \pm 2.49	77.49 \pm 1.77	91.30 \pm 2.01	90.62 \pm 2.36	92.58 \pm 1.54	26.02 \pm 2.72	89.53 \pm 5.10
T2-A1	93.88 \pm 0.31	94.47 \pm 0.40	95.16 \pm 0.58	90.65 \pm 0.77	94.52 \pm 0.49	82.00 \pm 1.15	93.91 \pm 0.66	94.36 \pm 0.63	94.37 \pm 0.27	45.11 \pm 15.18	94.86 \pm 0.58
T2-A2	56.33 \pm 3.25	58.98 \pm 3.41	63.44 \pm 4.71	59.92 \pm 4.68	58.23 \pm 2.35	00.00 \pm 00.00	53.20 \pm 3.25	59.84 \pm 3.85	53.67 \pm 3.56	66.09 \pm 13.79	62.66 \pm 1.61

T2-A3	44.29 ± 3.60	46.45 ± 2.61	56.06 ± 1.52	50.99 ± 3.64	39.62 ± 2.46	37.89 ± 9.56	49.35 ± 3.61	45.68 ± 1.73	36.79 ± 3.93	74.79 ± 15.71	31.48 ± 2.20
T2-A4	50.34 ± 2.00	49.02 ± 1.35	57.86 ± 1.09	55.11 ± 2.54	43.07 ± 1.16	22.97 ± 10.80	48.34 ± 16.22	49.84 ± 1.50	43.60 ± 3.43	74.02 ± 15.19	25.17 ± 1.03
T2-A5	50.00 ± 0.00	50.27 ± 0.80	49.68 ± 0.97	50.28 ± 1.09	48.98 ± 1.69	00.00 ± 00.00	47.65 ± 5.89	50.00 ± 0.00	50.10 ± 0.30	50.00 ± 0.00	25.23 ± 0.29
T2-A6	67.07 ± 2.40	67.58 ± 3.52	66.73 ± 1.12	60.11 ± 4.78	33.31 ± 2.59	45.47 ± 3.97	24.19 ± 24.90	67.34 ± 2.62	25.00 ± 0.00	25.00 ± 0.00	24.99 ± 0.26
T2-A7	75.50 ± 1.58	75.31 ± 1.22	73.44 ± 0.86	75.77 ± 2.04	65.57 ± 4.32	60.78 ± 3.16	62.69 ± 31.43	73.69 ± 1.35	57.02 ± 5.69	61.47 ± 14.63	50.21 ± 0.35
T2-A8	77.00 ± 1.00	76.34 ± 0.61	79.07 ± 0.77	80.48 ± 1.39	75.42 ± 0.16	73.02 ± 1.22	78.25 ± 1.51	76.08 ± 0.36	76.53 ± 0.76	76.94 ± 12.35	75.03 ± 0.41
T2-A9	94.69 ± 2.18	91.95 ± 2.97	92.19 ± 2.68	85.70 ± 4.89	84.84 ± 4.29	00.00 ± 00.00	78.20 ± 26.48	97.11 ± 1.82	92.11 ± 2.51	100.00 ± 0.00	99.90 ± 0.21
T2-A10	46.80 ± 5.25	47.42 ± 2.04	52.50 ± 3.98	30.23 ± 6.25	65.73 ± 8.47	00.00 ± 00.00	58.52 ± 6.87	48.05 ± 4.34	67.03 ± 5.14	52.42 ± 33.21	52.14 ± 3.77
T2-A11	40.23 ± 4.76	42.66 ± 4.46	39.30 ± 3.07	29.61 ± 3.74	41.61 ± 2.58	00.00 ± 00.00	45.94 ± 4.62	41.02 ± 2.95	38.05 ± 3.55	14.28 ± 31.39	34.48 ± 3.64
T2-A12	30.08 ± 4.18	32.97 ± 2.77	26.64 ± 2.91	22.81 ± 3.46	30.16 ± 2.39	00.00 ± 00.00	33.91 ± 4.45	29.84 ± 3.20	30.23 ± 2.35	47.19 ± 42.88	21.30 ± 1.84
T2-B1	70.08 ± 12.38	68.48 ± 14.63	64.93 ± 14.85	46.91 ± 10.92	88.28 ± 1.22	37.51 ± 3.04	92.40 ± 1.89	76.98 ± 2.07	39.99 ± 21.70	25.00 ± 0.00	24.93 ± 0.28
T2-B2	89.15 ± 1.81	88.22 ± 1.66	91.96 ± 0.87	77.16 ± 4.83	91.13 ± 0.84	65.08 ± 4.01	89.71 ± 1.13	90.68 ± 1.22	76.55 ± 17.51	25.00 ± 0.00	88.36 ± 8.62
T2-B3	96.14 ± 0.91	96.42 ± 0.83	95.66 ± 0.50	92.26 ± 1.04	97.12 ± 0.64	76.82 ± 4.08	94.84 ± 1.63	96.58 ± 0.80	96.97 ± 0.38	25.00 ± 0.00	84.06 ± 2.62
T2-B4	95.21 ± 0.37	95.76 ± 0.36	95.24 ± 0.68	89.49 ± 1.98	95.98 ± 0.37	82.62 ± 1.41	94.22 ± 0.73	95.04 ± 0.86	95.11 ± 0.73	26.70 ± 4.59	96.33 ± 0.58
T3-A1	99.94 ± 0.06	99.79 ± 0.10	99.71 ± 0.13	98.02 ± 0.35	99.97 ± 0.05	89.66 ± 1.99	99.65 ± 0.10	99.88 ± 0.09	99.82 ± 0.13	46.19 ± 19.78	99.96 ± 0.08
T3-A2	61.33 ± 3.32	61.41 ± 3.73	65.47 ± 2.49	60.62 ± 3.44	65.00 ± 2.29	00.00 ± 00.00	51.02 ± 17.28	61.80 ± 1.54	59.84 ± 3.39	68.83 ± 20.10	64.32 ± 2.56
T3-A3	53.97 ± 1.34	54.32 ± 1.80	58.04 ± 1.58	56.75 ± 2.10	50.52 ± 1.32	47.94 ± 13.01	57.09 ± 3.38	52.47 ± 1.69	49.59 ± 3.28	85.93 ± 14.51	41.54 ± 0.73
T3-A4	53.33 ± 1.17	53.04 ± 1.25	58.07 ± 1.97	55.08 ± 2.41	47.96 ± 0.70	48.30 ± 7.38	51.72 ± 17.54	54.02 ± 1.03	50.02 ± 1.64	95.40 ± 6.57	27.85 ± 0.68
T3-A5	50.00 ± 0.00	50.00 ± 0.00	50.00 ± 0.00	50.00 ± 0.00	51.43 ± 3.32	00.00 ± 00.00	47.01 ± 7.35	49.96 ± 0.12	50.21 ± 1.12	50.00 ± 0.00	25.12 ± 0.17
T3-A6	59.23 ± 2.95	59.48 ± 4.35	58.31 ± 1.91	53.18 ± 4.63	30.89 ± 1.83	39.66 ± 10.95	8.56 ± 17.33	56.90 ± 2.06	25.00 ± 0.00	27.50 ± 7.50	25.14 ± 0.29

T3-A7	77.30 ± 2.54	75.54 ± 1.87	71.66 ± 1.36	76.25 ± 1.05	61.11 ± 2.38	64.39 ± 8.91	68.97 ± 23.11	74.86 ± 2.92	53.31 ± 2.32	74.43 ± 1.13	49.92 ± 0.38
T3-A8	83.97 ± 0.84	83.07 ± 0.99	85.97 ± 0.59	85.76 ± 1.37	79.86 ± 0.47	77.14 ± 2.46	86.67 ± 0.71	83.51 ± 0.82	81.91 ± 1.68	69.97 ± 14.61	74.91 ± 0.23
T3-A9	91.72 ± 1.82	91.80 ± 2.84	94.30 ± 2.35	91.80 ± 2.32	86.77 ± 2.20	00.00 ± 00.00	88.91 ± 3.20	95.31 ± 1.05	89.84 ± 1.82	100.00 ± 0.00	100.00 ± 0.00
T3-A10	51.56 ± 5.28	52.27 ± 6.49	56.64 ± 2.95	33.75 ± 8.83	67.03 ± 4.68	00.00 ± 00.00	54.84 ± 20.15	53.83 ± 3.59	69.30 ± 5.46	55.31 ± 33.13	57.50 ± 3.86
T3-A11	31.95 ± 3.83	35.08 ± 3.80	32.73 ± 3.96	25.31 ± 5.85	28.28 ± 2.90	00.00 ± 00.00	36.72 ± 3.65	33.12 ± 3.26	30.23 ± 3.46	52.34 ± 31.62	21.35 ± 3.99
T3-A12	27.81 ± 2.30	30.55 ± 3.85	28.91 ± 3.31	22.19 ± 3.80	27.29 ± 1.32	00.00 ± 00.00	25.23 ± 12.95	26.09 ± 3.67	25.47 ± 4.69	63.12 ± 37.82	20.26 ± 2.13
T3-B1	77.63 ± 12.39	78.77 ± 4.86	69.93 ± 9.10	44.00 ± 2.63	90.86 ± 2.80	33.01 ± 3.25	78.69 ± 26.90	74.20 ± 9.47	45.54 ± 19.43	26.68 ± 5.05	25.01 ± 0.27
T3-B2	96.10 ± 0.69	94.51 ± 0.85	99.35 ± 0.46	87.04 ± 8.63	97.84 ± 0.58	67.67 ± 6.76	94.20 ± 1.01	96.28 ± 0.79	84.76 ± 3.54	25.00 ± 0.00	91.41 ± 5.96
T3-B3	97.38 ± 0.97	97.67 ± 0.67	96.04 ± 0.72	92.75 ± 1.30	98.05 ± 1.00	81.62 ± 2.43	95.90 ± 1.27	97.41 ± 1.20	99.02 ± 0.52	27.00 ± 5.99	92.53 ± 3.86
T3-B4	99.86 ± 0.14	99.80 ± 0.09	99.64 ± 0.19	97.43 ± 0.55	99.90 ± 0.16	88.52 ± 1.80	84.70 ± 29.85	99.93 ± 0.09	99.62 ± 0.23	25.00 ± 0.00	99.79 ± 0.17
T4-A1	96.76 ± 0.62	95.29 ± 0.68	93.84 ± 0.54	87.89 ± 2.87	96.29 ± 1.13	86.05 ± 3.98	95.93 ± 1.09	96.34 ± 0.95	96.32 ± 1.26	48.43 ± 20.27	95.83 ± 1.38
T4-A2	55.55 ± 2.55	55.00 ± 1.95	58.28 ± 3.05	54.61 ± 2.17	56.46 ± 1.90	00.00 ± 00.00	40.16 ± 20.33	54.77 ± 2.60	52.50 ± 5.43	73.52 ± 24.00	57.45 ± 1.40
T4-A3	49.78 ± 2.18	49.78 ± 1.29	59.53 ± 1.87	51.10 ± 1.65	42.98 ± 1.53	39.23 ± 12.92	49.24 ± 16.55	47.92 ± 2.53	42.33 ± 1.94	83.29 ± 17.54	31.77 ± 0.98
T4-A4	44.71 ± 1.43	44.89 ± 2.12	52.86 ± 2.04	46.29 ± 3.87	38.00 ± 1.72	36.95 ± 17.30	46.16 ± 15.53	42.64 ± 1.81	40.63 ± 1.67	89.83 ± 10.70	18.68 ± 0.57
T4-A5	48.73 ± 3.82	48.54 ± 4.37	50.00 ± 0.00	50.03 ± 0.09	50.00 ± 0.00	00.00 ± 00.00	52.00 ± 10.52	52.04 ± 6.13	50.00 ± 0.00	49.99 ± 0.04	24.69 ± 0.30
T4-A6	86.46 ± 1.15	85.80 ± 1.06	78.11 ± 2.19	76.08 ± 3.87	52.53 ± 1.91	39.64 ± 11.20	49.07 ± 32.38	85.64 ± 2.32	25.00 ± 0.00	25.00 ± 0.00	24.97 ± 0.22
T4-A7	80.69 ± 2.04	80.87 ± 0.99	72.02 ± 2.95	77.12 ± 1.80	66.15 ± 1.92	62.46 ± 8.82	62.63 ± 31.62	80.90 ± 1.36	73.85 ± 4.57	66.09 ± 10.70	49.21 ± 0.41
T4-A8	90.73 ± 1.01	87.67 ± 1.12	88.80 ± 0.60	85.85 ± 1.68	84.15 ± 0.89	71.22 ± 5.93	66.60 ± 43.62	90.60 ± 0.92	87.94 ± 1.10	74.16 ± 9.63	73.35 ± 0.57
T4-A9	81.17 ± 2.33	79.38 ± 3.01	84.06 ± 2.69	82.97 ± 4.36	71.56 ± 2.89	00.00 ± 00.00	77.89 ± 5.22	85.31 ± 2.66	77.42 ± 2.76	100.00 ± 0.00	99.84 ± 0.24
T4-A10	45.62 ± 4.25	47.11 ± 3.22	52.58 ± 4.62	31.64 ± 2.80	50.83 ± 2.94	00.00 ± 00.00	30.86 ± 16.16	46.25 ± 3.87	46.48 ± 4.82	68.83 ± 22.65	47.14 ± 4.85

T4-A11	37.73 ± 1.16	40.78 ± 3.51	40.16 ± 2.67	35.00 ± 3.47	37.19 ± 1.98	00.00 ± 00.00	38.83 ± 4.05	40.23 ± 3.99	38.12 ± 4.38	51.42 ± 36.21	32.14 ± 2.68
T4-A12	36.88 ± 4.40	37.42 ± 3.57	34.53 ± 3.44	31.56 ± 4.86	36.04 ± 2.52	00.00 ± 00.00	36.88 ± 3.26	37.19 ± 3.77	34.53 ± 3.14	70.05 ± 43.13	30.00 ± 1.82
T4-B1	72.96 ± 1.04	70.80 ± 8.64	65.86 ± 11.78	44.22 ± 2.34	80.35 ± 1.87	33.93 ± 3.99	79.89 ± 2.90	71.86 ± 2.77	39.18 ± 21.10	25.00 ± 0.00	25.95 ± 2.83
T4-B2	89.26 ± 1.48	88.60 ± 1.98	87.47 ± 1.69	72.15 ± 6.94	88.27 ± 1.95	53.73 ± 3.67	82.75 ± 4.59	88.51 ± 1.71	74.85 ± 3.27	25.00 ± 0.00	68.96 ± 12.58
T4-B3	90.90 ± 1.27	90.20 ± 0.85	87.61 ± 0.89	86.61 ± 1.80	90.88 ± 1.35	87.41 ± 3.23	90.08 ± 2.35	91.56 ± 0.65	90.22 ± 1.29	25.38 ± 1.13	75.38 ± 7.55
T4-B4	94.08 ± 1.34	93.33 ± 0.99	90.20 ± 0.85	85.42 ± 2.63	93.62 ± 0.84	78.05 ± 4.43	92.60 ± 3.61	92.75 ± 1.20	91.91 ± 1.57	25.74 ± 2.21	90.81 ± 2.25
Average	67.61	67.80	68.85	62.49	65.50	36.86	62.89	68.08	60.90	52.77	55.23
Std	21.90	21.19	21.31	22.57	23.00	32.52	23.76	21.99	24.24	24.37	28.74

(d) KAT/PU

Task	FedAvg	FedAM	DACS	FedSR	FADGN	FDDG	FedDGGA	FedIIR	FedGMA	FedGM	FedDGFD
T1-A1	45.96 \pm 1.49	49.58 \pm 2.54	27.88 \pm 23.95	30.75 \pm 18.09	44.53 \pm 2.44	33.44 \pm 1.23	12.15 \pm 11.46	45.84 \pm 1.75	38.55 \pm 2.72	9.37 \pm 2.09	51.13 \pm 1.65
T1-A2	54.20 \pm 1.67	58.51 \pm 2.76	62.36 \pm 2.03	51.50 \pm 3.74	53.06 \pm 1.75	40.60 \pm 1.64	0.00 \pm 0.00	55.70 \pm 1.87	51.47 \pm 2.20	26.00 \pm 9.17	49.81 \pm 0.95
T1-A3	56.23 \pm 2.12	57.91 \pm 1.88	58.82 \pm 10.99	55.63 \pm 2.61	52.46 \pm 6.18	42.96 \pm 1.63	0.00 \pm 0.00	56.96 \pm 1.50	53.67 \pm 4.62	23.90 \pm 8.05	43.17 \pm 1.07
T1-A4	53.99 \pm 1.36	58.39 \pm 1.95	64.61 \pm 2.31	54.50 \pm 2.28	54.25 \pm 3.80	43.16 \pm 1.47	0.00 \pm 0.00	54.78 \pm 1.67	53.17 \pm 1.52	32.00 \pm 9.80	35.60 \pm 0.69
T1-A5	53.24 \pm 3.96	55.39 \pm 3.95	63.11 \pm 1.00	50.81 \pm 1.34	53.56 \pm 0.89	40.42 \pm 1.25	0.00 \pm 0.00	52.54 \pm 2.17	50.60 \pm 5.49	29.17 \pm 9.80	32.27 \pm 0.30
T1-A6	31.28 \pm 2.43	31.45 \pm 6.19	22.86 \pm 7.00	27.36 \pm 7.01	39.91 \pm 2.73	22.86 \pm 0.78	33.92 \pm 3.07	33.94 \pm 4.79	24.80 \pm 5.84	26.96 \pm 4.27	3.91 \pm 3.36
T1-A7	46.56 \pm 1.93	45.85 \pm 3.51	17.09 \pm 5.29	36.07 \pm 9.17	34.98 \pm 2.60	28.43 \pm 1.27	35.13 \pm 11.88	43.41 \pm 4.54	33.12 \pm 6.44	24.88 \pm 7.15	13.19 \pm 1.69
T1-A8	47.44 \pm 5.86	49.94 \pm 2.21	39.05 \pm 3.76	43.85 \pm 4.69	32.67 \pm 2.43	33.32 \pm 1.81	37.21 \pm 3.99	47.30 \pm 1.44	32.56 \pm 6.66	26.83 \pm 5.87	21.21 \pm 0.42
T1-A9	41.77 \pm 4.56	51.13 \pm 7.41	53.03 \pm 6.59	45.28 \pm 4.25	42.46 \pm 4.76	32.63 \pm 1.44	38.69 \pm 13.84	44.96 \pm 4.84	38.29 \pm 3.22	29.32 \pm 2.07	26.74 \pm 0.80
T1-A10	50.72 \pm 5.23	57.94 \pm 6.26	61.02 \pm 6.13	49.97 \pm 5.82	51.78 \pm 1.02	40.89 \pm 1.84	53.60 \pm 17.92	53.85 \pm 2.15	42.89 \pm 2.87	27.72 \pm 4.79	33.35 \pm 0.62
T1-A11	53.10 \pm 0.56	58.83 \pm 2.21	62.03 \pm 0.66	54.88 \pm 0.44	53.15 \pm 1.16	42.40 \pm 2.07	50.83 \pm 17.09	53.89 \pm 0.86	51.55 \pm 0.68	26.72 \pm 5.83	42.30 \pm 1.22
T1-A12	60.27 \pm 0.97	63.88 \pm 2.57	71.37 \pm 1.03	61.32 \pm 1.77	59.56 \pm 0.54	42.16 \pm 1.17	53.60 \pm 17.91	60.10 \pm 2.61	58.27 \pm 2.41	29.59 \pm 3.04	45.70 \pm 1.41
T1-A13	61.36 \pm 1.71	63.60 \pm 1.50	69.08 \pm 1.37	62.31 \pm 1.10	62.70 \pm 1.32	38.53 \pm 2.97	49.11 \pm 24.58	61.28 \pm 1.24	60.13 \pm 1.17	42.70 \pm 9.68	43.58 \pm 1.03
T1-A14	57.70 \pm 0.97	57.36 \pm 1.43	61.95 \pm 0.73	57.93 \pm 2.15	57.65 \pm 1.48	32.36 \pm 1.71	56.10 \pm 1.56	57.94 \pm 1.17	56.33 \pm 1.21	28.14 \pm 10.10	39.43 \pm 0.79
T1-A15	57.47 \pm 1.27	59.78 \pm 3.98	64.80 \pm 1.50	57.07 \pm 1.27	53.94 \pm 4.11	32.49 \pm 1.95	55.30 \pm 1.62	58.78 \pm 1.62	57.72 \pm 1.00	30.88 \pm 9.39	38.02 \pm 1.37
T1-A16	56.06 \pm 2.80	54.32 \pm 5.64	62.71 \pm 2.05	53.32 \pm 3.62	53.71 \pm 4.87	31.39 \pm 1.81	21.29 \pm 26.09	54.97 \pm 2.11	52.57 \pm 1.40	26.64 \pm 8.44	35.01 \pm 1.89
T1-A17	53.27 \pm 2.50	54.61 \pm 1.59	60.11 \pm 4.92	52.48 \pm 4.42	51.11 \pm 2.36	30.26 \pm 1.24	0.00 \pm 0.00	49.77 \pm 3.15	47.87 \pm 5.97	27.65 \pm 12.30	33.12 \pm 1.35

T1-A18	50.30 ± 2.40	55.98 ± 2.40	62.13 ± 1.76	48.50 ± 2.57	49.18 ± 4.65	32.66 ± 1.96	0.00 ± 0.00	47.57 ± 3.83	48.71 ± 4.54	29.93 ± 9.93	33.33 ± 1.46
T1-B1	17.26 ± 4.76	14.96 ± 3.06	8.33 ± 0.00	10.38 ± 3.22	19.34 ± 2.46	13.88 ± 1.11	30.01 ± 2.84	17.95 ± 4.02	9.79 ± 3.65	8.87 ± 1.34	10.33 ± 1.61
T1-B2	34.75 ± 2.16	33.42 ± 3.61	14.89 ± 6.89	24.44 ± 5.33	21.51 ± 1.14	21.05 ± 1.36	49.49 ± 0.73	37.45 ± 1.02	26.93 ± 7.23	9.11 ± 1.31	26.52 ± 4.35
T1-B3	46.99 ± 2.30	49.59 ± 2.07	21.55 ± 20.20	46.12 ± 2.51	35.99 ± 2.90	33.27 ± 0.94	54.76 ± 0.67	48.25 ± 1.96	43.86 ± 2.99	10.64 ± 2.70	28.13 ± 7.12
T1-B4	45.64 ± 3.68	50.96 ± 2.63	30.67 ± 22.38	48.05 ± 1.51	41.63 ± 2.28	31.01 ± 1.22	48.97 ± 0.93	45.48 ± 2.94	44.57 ± 3.78	9.29 ± 1.92	42.33 ± 4.08
T2-A1	77.46 ± 5.82	82.77 ± 2.55	8.33 ± 0.00	00.00 ± 00.00	77.78 ± 1.78	47.81 ± 0.44	43.84 ± 2.81	82.41 ± 3.00	71.09 ± 4.51	9.69 ± 1.77	83.23 ± 2.96
T2-A2	57.86 ± 0.00	63.94 ± 6.69	60.38 ± 0.26	54.14 ± 3.67	55.57 ± 5.03	41.99 ± 0.88	46.69 ± 5.99	58.21 ± 5.08	55.16 ± 2.87	27.67 ± 7.67	59.15 ± 1.14
T2-A3	65.90 ± 0.00	69.67 ± 1.92	40.00 ± 0.00	62.87 ± 2.42	68.50 ± 1.33	42.45 ± 0.11	56.25 ± 4.67	65.26 ± 5.92	61.31 ± 7.42	20.29 ± 0.50	55.51 ± 1.71
T2-A4	66.87 ± 1.30	71.08 ± 1.32	40.00 ± 0.00	62.70 ± 2.53	68.47 ± 1.30	43.14 ± 0.54	53.95 ± 7.57	66.18 ± 0.80	65.99 ± 2.08	20.00 ± 0.00	47.62 ± 1.11
T2-A5	64.87 ± 0.42	67.36 ± 4.34	42.84 ± 22.84	60.79 ± 1.57	64.59 ± 3.07	42.77 ± 0.86	47.29 ± 8.19	62.49 ± 1.37	60.67 ± 3.44	26.29 ± 8.89	39.74 ± 0.65
T2-A6	35.14 ± 0.57	31.13 ± 4.79	14.29 ± 0.00	30.16 ± 7.21	54.66 ± 4.13	21.17 ± 0.73	23.37 ± 12.71	39.36 ± 7.85	27.76 ± 5.51	23.55 ± 5.85	8.01 ± 3.71
T2-A7	43.38 ± 3.29	40.04 ± 5.17	14.29 ± 0.00	30.96 ± 11.50	49.99 ± 3.95	31.51 ± 0.28	15.76 ± 4.16	40.16 ± 5.55	40.49 ± 6.09	28.42 ± 0.27	12.71 ± 1.69
T2-A8	43.27 ± 9.72	42.34 ± 8.31	31.57 ± 0.00	36.48 ± 6.10	52.95 ± 1.20	40.96 ± 0.08	30.47 ± 6.35	46.91 ± 7.34	36.54 ± 8.09	29.87 ± 2.60	22.65 ± 0.25
T2-A9	45.32 ± 6.82	50.03 ± 10.67	46.78 ± 0.00	43.53 ± 1.77	54.95 ± 4.29	45.56 ± 0.00	37.12 ± 1.48	59.09 ± 7.97	41.86 ± 4.42	28.57 ± 0.00	32.78 ± 1.57
T2-A10	52.38 ± 7.40	60.26 ± 9.49	60.75 ± 0.00	52.34 ± 0.98	66.68 ± 2.01	45.27 ± 0.02	34.75 ± 4.36	63.62 ± 8.35	51.63 ± 5.29	28.57 ± 0.00	39.30 ± 0.96
T2-A11	65.87 ± 0.08	68.32 ± 0.46	71.56 ± 0.00	67.95 ± 0.91	64.91 ± 4.83	46.34 ± 1.44	40.59 ± 15.06	64.60 ± 1.20	62.73 ± 5.27	25.00 ± 6.19	52.51 ± 0.77
T2-A12	73.04 ± 6.21	79.71 ± 4.78	86.27 ± 0.00	81.27 ± 0.76	80.03 ± 0.52	46.46 ± 3.45	50.51 ± 6.68	78.04 ± 0.88	73.59 ± 5.32	28.57 ± 0.00	59.10 ± 4.26
T2-A13	70.74 ± 0.24	74.73 ± 1.65	82.07 ± 0.00	76.02 ± 0.59	71.21 ± 1.83	35.82 ± 2.62	51.88 ± 4.81	71.17 ± 0.85	69.65 ± 1.16	37.63 ± 7.80	52.57 ± 0.67
T2-A14	67.80 ± 0.00	70.19 ± 0.61	73.69 ± 0.00	70.50 ± 1.40	66.95 ± 1.35	21.00 ± 0.40	43.08 ± 4.93	68.67 ± 1.46	67.05 ± 1.05	23.02 ± 6.75	48.72 ± 0.74
T2-A15	61.48 ± 0.00	66.45 ± 1.21	74.92 ± 0.00	64.03 ± 2.02	63.61 ± 1.26	35.41 ± 2.60	47.12 ± 5.71	60.44 ± 1.80	60.75 ± 3.82	35.00 ± 8.66	47.74 ± 1.01

T2-A16	61.53 ± 0.00	65.45 ± 4.63	69.94 ± 0.00	64.39 ± 1.88	69.09 ± 0.40	37.71 ± 4.31	45.20 ± 7.85	64.14 ± 4.36	62.75 ± 0.70	35.89 ± 7.95	47.34 ± 1.09
T2-A17	59.55 ± 0.00	67.43 ± 2.27	20.00 ± 0.00	63.41 ± 3.79	63.65 ± 1.56	37.03 ± 2.05	45.84 ± 17.29	61.95 ± 1.02	59.26 ± 1.58	29.10 ± 7.89	43.79 ± 1.87
T2-A18	61.77 ± 0.00	65.71 ± 8.07	73.63 ± 0.00	61.89 ± 3.01	53.01 ± 11.05	40.67 ± 0.00	29.99 ± 18.72	63.57 ± 1.88	62.02 ± 2.71	33.43 ± 8.17	46.28 ± 2.05
T2-B1	17.31 ± 3.63	18.99 ± 4.67	8.33 ± 0.00	00.00 ± 00.00	23.91 ± 3.39	20.67 ± 0.00	8.28 ± 1.71	22.05 ± 4.37	10.03 ± 3.53	8.33 ± 0.00	11.30 ± 3.40
T2-B2	40.85 ± 5.28	39.42 ± 2.82	14.26 ± 0.00	00.00 ± 00.00	23.84 ± 3.13	26.82 ± 0.00	19.07 ± 2.36	44.31 ± 3.55	28.93 ± 15.21	7.69 ± 1.12	35.28 ± 5.02
T2-B3	72.93 ± 4.25	73.39 ± 6.31	8.33 ± 0.00	00.00 ± 00.00	42.80 ± 4.96	00.00 ± 00.00	28.98 ± 5.34	76.96 ± 0.66	67.11 ± 3.72	8.69 ± 0.72	21.28 ± 8.42
T2-B4	66.13 ± 3.80	68.87 ± 3.12	8.33 ± 0.00	00.00 ± 00.00	50.21 ± 4.00	48.28 ± 0.00	35.17 ± 3.42	69.50 ± 4.60	59.25 ± 7.03	10.77 ± 2.30	50.31 ± 0.64
T3-A1	59.36 ± 2.27	58.11 ± 2.18	8.33 ± 0.00	00.00 ± 00.00	54.92 ± 3.70	29.87 ± 0.00	39.89 ± 5.20	61.72 ± 1.56	48.75 ± 3.57	8.20 ± 0.18	62.93 ± 0.38
T3-A2	44.39 ± 0.78	44.52 ± 1.95	40.00 ± 0.00	38.36 ± 2.32	44.03 ± 1.09	33.60 ± 1.15	44.64 ± 5.72	45.11 ± 1.88	45.71 ± 3.15	24.71 ± 6.66	44.84 ± 2.87
T3-A3	52.40 ± 0.37	51.73 ± 2.53	40.00 ± 0.00	48.36 ± 1.77	52.64 ± 4.31	38.15 ± 2.09	47.84 ± 7.08	49.44 ± 1.54	50.53 ± 2.32	20.00 ± 0.00	41.30 ± 0.98
T3-A4	55.04 ± 0.73	50.60 ± 1.03	40.00 ± 0.00	45.83 ± 2.40	54.58 ± 2.96	36.37 ± 1.18	48.22 ± 4.75	50.62 ± 2.08	48.89 ± 1.88	29.84 ± 9.84	35.01 ± 0.99
T3-A5	48.76 ± 0.59	51.22 ± 2.06	48.63 ± 0.00	48.05 ± 2.58	48.09 ± 3.79	36.75 ± 1.43	40.73 ± 6.28	48.22 ± 1.86	46.64 ± 2.95	31.17 ± 8.22	30.19 ± 0.62
T3-A6	37.51 ± 0.83	33.44 ± 4.76	28.57 ± 0.00	32.59 ± 4.01	29.71 ± 1.41	15.35 ± 0.89	21.58 ± 9.52	31.55 ± 6.41	27.92 ± 10.77	18.18 ± 4.09	3.66 ± 2.18
T3-A7	36.52 ± 7.88	32.43 ± 3.66	14.29 ± 0.00	29.35 ± 10.55	31.58 ± 2.60	24.32 ± 1.40	17.14 ± 5.70	33.54 ± 5.92	38.77 ± 5.46	21.64 ± 6.25	12.00 ± 1.64
T3-A8	57.30 ± 3.42	52.96 ± 3.91	41.35 ± 0.00	38.70 ± 5.40	40.35 ± 0.72	26.77 ± 1.21	27.58 ± 11.58	50.49 ± 5.14	42.34 ± 6.58	27.90 ± 0.66	17.01 ± 3.39
T3-A9	46.10 ± 6.30	38.39 ± 1.18	42.27 ± 0.00	40.38 ± 3.87	58.64 ± 3.02	27.49 ± 1.22	34.73 ± 3.37	45.22 ± 7.94	40.62 ± 5.38	21.46 ± 7.11	26.17 ± 0.93
T3-A10	56.39 ± 0.52	50.98 ± 7.10	43.34 ± 0.00	45.54 ± 2.82	53.55 ± 5.47	34.85 ± 0.69	35.42 ± 1.40	51.44 ± 3.35	45.65 ± 2.01	28.63 ± 0.09	33.62 ± 0.91
T3-A11	61.80 ± 0.97	56.40 ± 0.77	59.09 ± 0.00	58.34 ± 0.68	61.01 ± 0.98	34.69 ± 0.50	41.36 ± 4.54	60.54 ± 0.45	58.52 ± 5.17	25.90 ± 5.34	43.21 ± 0.39
T3-A12	57.98 ± 7.61	58.03 ± 1.50	68.28 ± 0.00	67.00 ± 1.38	64.57 ± 1.42	32.14 ± 0.35	49.85 ± 3.46	64.59 ± 1.49	62.67 ± 3.59	28.77 ± 0.34	47.22 ± 1.06
T3-A13	62.92 ± 1.78	56.98 ± 1.69	70.27 ± 0.00	62.71 ± 1.41	59.76 ± 0.80	29.02 ± 0.00	54.95 ± 6.42	60.69 ± 1.62	57.75 ± 1.50	42.01 ± 4.02	43.38 ± 0.44

T3-A14	51.34 ± 0.03	47.04 ± 0.98	40.00 ± 0.00	52.98 ± 1.87	49.43 ± 0.76	11.49 ± 0.00	37.53 ± 16.41	51.91 ± 1.03	49.64 ± 1.06	26.67 ± 9.43	34.52 ± 0.48
T3-A15	45.43 ± 0.43	49.32 ± 1.67	59.53 ± 0.00	52.28 ± 2.56	48.00 ± 0.28	23.13 ± 1.84	40.28 ± 17.14	46.39 ± 2.97	48.27 ± 1.52	24.02 ± 6.96	35.29 ± 1.34
T3-A16	42.22 ± 0.29	44.74 ± 1.58	53.81 ± 0.00	49.48 ± 2.10	49.05 ± 1.61	21.26 ± 2.51	38.71 ± 5.08	43.69 ± 3.97	42.16 ± 2.27	25.76 ± 7.78	32.29 ± 0.93
T3-A17	42.34 ± 2.18	43.83 ± 2.20	52.95 ± 0.00	46.46 ± 3.75	51.04 ± 0.15	23.47 ± 0.31	38.60 ± 5.54	43.50 ± 2.59	39.96 ± 4.10	22.42 ± 4.19	34.18 ± 1.18
T3-A18	45.39 ± 2.47	46.28 ± 3.12	48.97 ± 0.00	47.16 ± 3.60	47.56 ± 3.32	27.98 ± 1.25	23.87 ± 19.10	46.01 ± 2.34	47.19 ± 4.63	35.00 ± 8.66	35.69 ± 1.61
T3-B1	18.42 ± 3.63	17.75 ± 2.77	8.33 ± 0.00	00.00 ± 00.00	13.84 ± 1.06	14.96 ± 0.74	8.05 ± 1.77	19.32 ± 4.45	8.33 ± 0.00	8.33 ± 0.00	8.90 ± 1.88
T3-B2	35.94 ± 4.39	27.88 ± 5.65	8.33 ± 0.00	00.00 ± 00.00	25.60 ± 4.58	20.17 ± 0.20	17.15 ± 0.47	38.73 ± 3.13	22.30 ± 6.62	10.65 ± 1.89	38.91 ± 4.04
T3-B3	48.48 ± 2.89	51.13 ± 5.60	8.33 ± 0.00	00.00 ± 00.00	34.48 ± 1.69	28.05 ± 1.34	29.34 ± 3.16	57.60 ± 1.18	47.03 ± 3.42	12.59 ± 6.02	23.28 ± 8.87
T3-B4	51.41 ± 2.47	50.09 ± 3.44	8.33 ± 0.00	00.00 ± 00.00	46.50 ± 0.05	31.30 ± 0.00	34.29 ± 2.51	51.57 ± 3.42	49.91 ± 5.53	8.62 ± 0.28	20.65 ± 6.14
T4-A1	78.15 ± 4.37	79.51 ± 4.53	8.33 ± 0.00	00.00 ± 00.00	75.82 ± 0.00	44.69 ± 0.00	42.24 ± 4.12	80.03 ± 4.68	65.12 ± 3.66	8.33 ± 0.00	85.92 ± 2.42
T4-A2	54.41 ± 0.00	63.84 ± 1.91	40.00 ± 0.00	55.33 ± 3.04	61.20 ± 3.47	00.00 ± 00.00	47.24 ± 5.93	58.16 ± 5.85	52.19 ± 6.77	26.67 ± 9.43	60.19 ± 2.10
T4-A3	66.84 ± 0.00	68.23 ± 0.93	69.29 ± 0.00	61.32 ± 3.42	68.43 ± 0.00	00.00 ± 00.00	49.52 ± 7.16	66.82 ± 0.83	63.35 ± 2.84	26.67 ± 9.43	53.12 ± 0.95
T4-A4	68.84 ± 0.00	70.16 ± 5.65	68.85 ± 0.00	65.54 ± 3.17	70.15 ± 1.52	00.00 ± 00.00	45.77 ± 10.13	69.20 ± 2.08	66.30 ± 5.27	26.67 ± 9.43	47.02 ± 1.04
T4-A5	58.73 ± 0.00	65.91 ± 2.19	40.00 ± 0.00	57.99 ± 2.16	60.95 ± 1.90	00.00 ± 00.00	53.05 ± 4.88	58.54 ± 2.85	55.46 ± 2.77	41.57 ± 8.74	36.86 ± 1.86
T4-A6	33.60 ± 0.00	37.18 ± 3.66	28.57 ± 0.00	31.58 ± 6.39	50.77 ± 3.26	00.00 ± 00.00	26.27 ± 7.58	38.68 ± 7.90	28.11 ± 6.35	16.95 ± 3.77	8.56 ± 3.37
T4-A7	43.72 ± 0.00	39.15 ± 4.37	14.29 ± 0.00	26.12 ± 9.89	45.64 ± 1.77	33.15 ± 1.45	14.29 ± 0.00	39.84 ± 5.32	34.66 ± 10.40	28.57 ± 0.00	13.17 ± 2.75
T4-A8	50.65 ± 0.00	45.94 ± 7.05	32.15 ± 0.00	34.63 ± 4.53	50.00 ± 1.47	40.92 ± 0.43	33.00 ± 1.71	46.50 ± 6.39	33.60 ± 4.66	31.08 ± 2.72	22.40 ± 0.16
T4-A9	36.35 ± 0.00	42.59 ± 5.21	44.21 ± 0.00	41.60 ± 4.12	49.21 ± 2.04	42.07 ± 0.58	29.97 ± 12.47	45.16 ± 7.73	39.15 ± 5.43	25.00 ± 6.19	28.93 ± 0.94
T4-A10	57.67 ± 0.00	52.00 ± 4.26	65.55 ± 0.00	50.64 ± 2.75	64.83 ± 0.65	46.63 ± 0.40	27.33 ± 11.32	59.52 ± 8.86	47.11 ± 1.17	28.33 ± 0.32	40.69 ± 0.89
T4-A11	63.21 ± 0.00	65.20 ± 3.55	72.08 ± 0.00	65.99 ± 1.06	65.22 ± 1.09	44.18 ± 0.12	43.13 ± 2.64	62.33 ± 0.87	62.61 ± 2.38	28.86 ± 0.49	51.26 ± 3.16

T4-A12	79.99 ± 0.00	74.69 ± 6.20	83.53 ± 0.00	79.66 ± 0.62	80.33 ± 0.20	47.47 ± 1.56	46.62 ± 3.30	75.29 ± 3.32	74.78 ± 4.42	28.60 ± 0.03	59.74 ± 3.68
T4-A13	77.16 ± 0.00	75.69 ± 3.35	83.01 ± 0.00	77.35 ± 0.77	73.88 ± 1.66	40.30 ± 0.84	51.82 ± 6.09	74.88 ± 1.33	73.29 ± 0.64	40.00 ± 0.00	54.07 ± 0.48
T4-A14	70.47 ± 0.00	71.21 ± 1.91	76.18 ± 0.00	71.07 ± 2.91	72.33 ± 0.28	34.97 ± 5.52	45.89 ± 5.47	71.03 ± 0.67	69.79 ± 2.56	36.67 ± 3.33	48.56 ± 0.75
T4-A15	61.30 ± 0.00	65.99 ± 1.64	73.45 ± 0.00	61.93 ± 1.96	56.00 ± 5.21	00.00 ± 00.00	41.19 ± 8.89	58.46 ± 1.87	57.64 ± 1.43	40.00 ± 0.00	48.36 ± 0.89
T4-A16	54.49 ± 7.78	67.55 ± 3.47	40.00 ± 0.00	65.21 ± 2.71	67.27 ± 0.51	35.40 ± 1.57	33.09 ± 14.44	63.75 ± 2.15	63.45 ± 2.21	38.86 ± 1.99	49.42 ± 0.44
T4-A17	58.15 ± 0.49	64.93 ± 3.82	40.00 ± 0.00	61.69 ± 2.02	66.64 ± 0.00	37.54 ± 1.39	48.62 ± 6.63	60.24 ± 1.14	58.66 ± 2.26	33.30 ± 9.40	45.46 ± 0.85
T4-A18	62.20 ± 1.33	68.55 ± 3.19	74.26 ± 0.00	59.85 ± 4.24	00.00 ± 00.00	38.42 ± 2.46	35.50 ± 15.88	59.51 ± 7.61	51.54 ± 8.22	33.30 ± 9.40	44.73 ± 1.26
T4-B1	17.43 ± 2.97	19.29 ± 2.91	00.00 ± 00.00	00.00 ± 00.00	00.00 ± 00.00	18.51 ± 0.00	7.75 ± 1.02	22.50 ± 3.03	9.64 ± 3.91	9.90 ± 2.22	12.27 ± 1.79
T4-B2	38.51 ± 5.36	35.93 ± 3.36	8.33 ± 0.00	00.00 ± 00.00	38.24 ± 0.00	29.94 ± 0.16	17.81 ± 0.80	44.03 ± 4.43	28.80 ± 9.56	11.91 ± 3.58	40.84 ± 0.51
T4-B3	72.08 ± 3.27	72.90 ± 4.14	8.33 ± 0.00	00.00 ± 00.00	42.72 ± 3.83	45.18 ± 1.24	31.05 ± 4.21	74.54 ± 3.23	66.50 ± 4.30	8.33 ± 0.00	34.74 ± 9.35
T4-B4	66.61 ± 5.35	64.55 ± 3.22	8.33 ± 0.00	00.00 ± 00.00	45.81 ± 2.44	46.86 ± 1.51	31.90 ± 1.82	65.54 ± 3.68	60.01 ± 5.44	8.33 ± 0.00	37.15 ± 13.21
Average	53.13	54.49	43.43	42.92	51.49	31.44	35.12	54.07	48.91	24.35	37.19
Std	13.59	14.82	24.33	23.31	16.01	12.67	15.42	13.37	15.14	9.50	16.01

(e) HUSTbearing

Task	FedAvg	FedAM	DACS	FedSR	FADGN	FDDG	FedDGGA	FedHIR	FedGMA	FedGM	FedDGFD
T1-A1	87.19 \pm 1.14	93.65 \pm 0.97	96.03 \pm 0.36	90.33 \pm 1.40	85.97 \pm 0.92	85.92 \pm 1.12	90.90 \pm 1.33	84.22 \pm 4.30	82.18 \pm 5.11	14.11 \pm 4.20	90.56 \pm 1.88
T1-A2	42.98 \pm 3.09	38.43 \pm 6.50	57.09 \pm 3.85	49.33 \pm 5.33	42.92 \pm 3.28	39.91 \pm 0.00	0.00 \pm 0.00	40.89 \pm 4.36	46.05 \pm 3.45	27.66 \pm 7.49	36.21 \pm 2.77
T1-A3	56.64 \pm 1.92	59.56 \pm 3.12	72.78 \pm 1.20	63.76 \pm 3.62	57.34 \pm 1.46	53.11 \pm 0.00	0.00 \pm 0.00	56.01 \pm 2.67	57.01 \pm 2.31	36.28 \pm 14.15	43.81 \pm 1.50
T1-A4	74.84 \pm 1.19	71.88 \pm 2.30	77.01 \pm 0.72	73.92 \pm 1.20	72.97 \pm 1.16	68.44 \pm 1.94	0.00 \pm 0.00	75.00 \pm 1.40	75.24 \pm 1.74	34.52 \pm 12.66	47.45 \pm 0.61
T1-A5	41.23 \pm 6.97	37.81 \pm 12.49	42.55 \pm 10.99	36.45 \pm 9.56	47.78 \pm 5.73	23.61 \pm 0.46	7.71 \pm 18.89	40.24 \pm 9.31	23.62 \pm 13.30	26.47 \pm 8.13	3.22 \pm 2.27
T1-A6	00.00 \pm 00.00	00.00 \pm 00.00	00.00 \pm 00.00	00.00 \pm 00.00	46.50 \pm 7.57	00.00 \pm 00.00	00.00 \pm 00.00	00.00 \pm 00.00	00.00 \pm 00.00	00.00 \pm 00.00	18.59 \pm 2.83
T1-A7	58.83 \pm 9.45	61.92 \pm 11.02	74.53 \pm 2.35	68.56 \pm 6.87	55.45 \pm 4.75	45.99 \pm 1.83	0.00 \pm 0.00	57.00 \pm 10.87	39.13 \pm 5.52	31.78 \pm 4.68	33.00 \pm 0.23
T1-A8	56.67 \pm 6.52	65.88 \pm 9.65	77.85 \pm 1.13	72.02 \pm 3.87	53.19 \pm 2.97	66.04 \pm 0.00	0.00 \pm 0.00	60.19 \pm 8.62	54.22 \pm 7.85	31.68 \pm 4.95	49.07 \pm 0.41
T1-A9	73.31 \pm 6.88	81.59 \pm 6.13	90.36 \pm 0.82	77.35 \pm 4.48	68.17 \pm 7.15	77.74 \pm 1.75	0.00 \pm 0.00	71.61 \pm 9.19	64.68 \pm 7.16	30.00 \pm 6.67	64.15 \pm 0.40
T1-A10	82.42 \pm 2.26	84.34 \pm 1.81	85.78 \pm 0.81	85.88 \pm 3.80	81.86 \pm 1.42	80.63 \pm 1.23	0.00 \pm 0.00	82.52 \pm 1.47	81.06 \pm 2.42	36.04 \pm 5.63	80.36 \pm 0.22
T1-A11	78.87 \pm 1.50	81.88 \pm 2.70	85.56 \pm 1.28	86.53 \pm 2.64	78.83 \pm 3.25	60.36 \pm 3.08	0.00 \pm 0.00	76.68 \pm 0.45	75.98 \pm 3.12	42.88 \pm 12.13	77.89 \pm 0.42
T1-A12	78.10 \pm 1.67	80.12 \pm 1.31	85.88 \pm 1.54	85.13 \pm 2.55	76.93 \pm 1.27	69.11 \pm 4.18	0.00 \pm 0.00	76.44 \pm 1.78	76.77 \pm 2.22	40.83 \pm 3.37	75.76 \pm 0.49
T1-A13	77.13 \pm 1.15	75.69 \pm 4.39	81.50 \pm 0.74	82.11 \pm 3.41	77.91 \pm 2.20	68.37 \pm 0.34	0.00 \pm 0.00	75.67 \pm 1.08	77.27 \pm 1.80	37.91 \pm 10.51	72.43 \pm 2.33
T1-A14	72.37 \pm 0.94	65.19 \pm 2.41	75.49 \pm 0.98	67.98 \pm 2.50	72.05 \pm 0.68	65.67 \pm 1.41	51.91 \pm 32.84	72.11 \pm 0.65	72.35 \pm 1.06	38.66 \pm 11.03	70.45 \pm 5.05
T1-A15	67.05 \pm 1.76	61.82 \pm 2.87	72.67 \pm 1.12	60.78 \pm 3.70	66.09 \pm 1.84	68.24 \pm 0.09	71.54 \pm 0.85	65.64 \pm 2.12	67.47 \pm 1.50	37.72 \pm 5.97	70.06 \pm 1.13
T1-B1	21.34 \pm 0.25	20.74 \pm 0.92	11.11 \pm 0.00	11.81 \pm 1.99	22.50 \pm 3.44	12.87 \pm 1.29	15.13 \pm 6.75	20.16 \pm 2.37	12.09 \pm 2.93	11.11 \pm 0.00	11.07 \pm 0.13
T1-B2	71.18 \pm 4.69	67.69 \pm 9.54	11.11 \pm 0.00	15.11 \pm 10.01	59.64 \pm 8.55	71.84 \pm 1.67	83.64 \pm 0.74	69.48 \pm 6.70	55.19 \pm 9.98	14.03 \pm 4.22	63.12 \pm 8.57
T1-B3	88.02 \pm 1.23	91.46 \pm 0.99	93.13 \pm 0.54	89.97 \pm 1.50	74.67 \pm 3.35	84.94 \pm 3.47	92.36 \pm 0.97	87.04 \pm 3.15	83.71 \pm 4.21	13.30 \pm 4.02	84.43 \pm 2.74

T1-B4	89.82 ± 6.62	94.24 ± 0.84	95.42 ± 0.27	90.11 ± 0.77	86.89 ± 4.12	93.86 ± 0.68	93.66 ± 0.32	92.57 ± 1.02	89.73 ± 4.35	13.35 ± 5.88	93.36 ± 1.56
T2-A1	93.80 ± 0.68	93.99 ± 1.11	95.45 ± 0.30	92.34 ± 0.55	93.10 ± 2.08	94.29 ± 0.45	11.11 ± 0.00	94.17 ± 1.24	92.06 ± 3.84	16.97 ± 7.78	94.05 ± 0.41
T2-A2	36.03 ± 3.63	38.73 ± 4.24	56.12 ± 1.65	46.06 ± 3.98	33.32 ± 2.52	31.21 ± 1.54	0.00 ± 0.00	36.89 ± 4.24	36.72 ± 4.04	27.50 ± 7.50	30.16 ± 2.78
T2-A3	56.65 ± 4.15	52.10 ± 2.01	62.70 ± 1.77	61.23 ± 2.84	54.01 ± 2.47	46.10 ± 5.28	0.00 ± 0.00	57.34 ± 3.34	55.63 ± 3.66	32.31 ± 11.59	41.27 ± 1.36
T2-A4	75.22 ± 1.14	59.20 ± 5.20	68.92 ± 2.19	68.86 ± 1.66	74.87 ± 1.15	72.96 ± 3.42	0.00 ± 0.00	76.19 ± 0.39	76.20 ± 0.84	33.35 ± 13.93	47.76 ± 0.43
T2-A5	26.86 ± 6.65	24.61 ± 5.11	45.35 ± 8.55	30.92 ± 6.81	42.80 ± 9.38	24.42 ± 0.75	0.00 ± 0.00	27.63 ± 5.04	30.06 ± 10.70	26.57 ± 8.09	0.56 ± 0.72
T2-A6	00.00 ± 00.00	00.00 ± 00.00	00.00 ± 00.00	00.00 ± 00.00	51.69 ± 7.25	00.00 ± 00.00	00.00 ± 00.00	00.00 ± 00.00	00.00 ± 00.00	00.00 ± 00.00	17.03 ± 2.83
T2-A7	55.79 ± 7.56	59.43 ± 7.36	77.03 ± 2.72	69.99 ± 4.16	55.58 ± 2.77	48.94 ± 4.30	21.38 ± 30.24	53.94 ± 7.62	48.05 ± 9.45	31.78 ± 5.05	33.22 ± 0.18
T2-A8	53.42 ± 7.87	61.70 ± 5.31	84.17 ± 2.72	71.33 ± 3.99	53.54 ± 3.79	63.14 ± 1.17	0.00 ± 0.00	51.38 ± 7.22	47.58 ± 3.21	33.33 ± 0.00	49.82 ± 0.34
T2-A9	73.86 ± 5.28	79.92 ± 6.68	91.79 ± 1.52	80.90 ± 5.98	66.26 ± 5.56	79.48 ± 3.41	0.00 ± 0.00	75.74 ± 6.25	66.55 ± 9.53	33.73 ± 1.33	65.49 ± 0.41
T2-A10	82.74 ± 1.03	81.02 ± 2.38	87.83 ± 1.66	84.11 ± 4.27	82.21 ± 0.66	80.83 ± 0.64	0.00 ± 0.00	83.07 ± 1.26	81.81 ± 3.19	34.97 ± 8.70	81.70 ± 0.64
T2-A11	77.97 ± 5.33	78.53 ± 2.65	87.70 ± 1.66	82.45 ± 3.73	79.01 ± 2.12	62.61 ± 10.00	0.00 ± 0.00	78.20 ± 1.41	76.42 ± 6.04	43.56 ± 10.83	79.12 ± 0.50
T2-A12	76.62 ± 3.83	69.40 ± 2.07	77.86 ± 2.32	76.09 ± 4.15	78.38 ± 2.15	61.05 ± 9.50	0.00 ± 0.00	79.65 ± 1.77	73.86 ± 6.80	45.14 ± 7.98	76.53 ± 2.63
T2-A13	64.85 ± 4.72	72.81 ± 2.81	81.04 ± 1.35	74.94 ± 3.33	67.86 ± 4.22	59.82 ± 6.99	0.00 ± 0.00	68.50 ± 6.39	67.61 ± 5.57	33.97 ± 12.77	70.10 ± 3.12
T2-A14	70.70 ± 2.69	60.44 ± 1.60	68.53 ± 2.14	66.43 ± 2.80	75.48 ± 2.75	61.87 ± 2.70	0.00 ± 0.00	72.49 ± 3.19	67.77 ± 3.94	35.99 ± 14.95	75.94 ± 0.77
T2-A15	65.01 ± 2.99	55.33 ± 1.33	63.47 ± 2.62	57.97 ± 3.20	69.51 ± 4.18	66.26 ± 2.44	0.00 ± 0.00	68.12 ± 3.32	65.00 ± 4.86	33.94 ± 15.48	72.35 ± 2.73
T2-B1	22.07 ± 0.13	20.83 ± 3.25	11.15 ± 0.15	12.18 ± 3.20	23.09 ± 3.38	14.10 ± 1.87	27.01 ± 11.55	21.09 ± 3.33	11.10 ± 0.03	11.11 ± 0.00	11.12 ± 0.07
T2-B2	75.82 ± 6.62	73.91 ± 7.22	14.60 ± 14.40	20.93 ± 19.57	67.61 ± 9.45	73.96 ± 2.25	54.06 ± 42.95	78.56 ± 4.73	71.07 ± 9.01	12.21 ± 3.30	69.96 ± 6.69
T2-B3	96.55 ± 3.36	97.43 ± 0.38	97.24 ± 0.34	95.57 ± 0.66	76.79 ± 5.87	94.03 ± 0.66	98.62 ± 0.23	98.37 ± 0.43	93.24 ± 5.30	15.49 ± 5.36	88.62 ± 1.35
T2-B4	91.41 ± 4.12	92.92 ± 0.67	93.29 ± 0.36	90.81 ± 0.76	91.17 ± 4.31	92.28 ± 0.26	94.61 ± 0.38	92.12 ± 4.78	89.66 ± 4.87	13.61 ± 4.96	92.19 ± 2.76

T3-A1	97.73 ± 0.49	97.62 ± 0.29	99.02 ± 0.12	96.03 ± 0.64	96.36 ± 2.89	97.05 ± 0.11	98.46 ± 0.10	97.34 ± 0.38	96.38 ± 2.97	13.43 ± 4.25	98.31 ± 0.21
T3-A2	52.41 ± 5.04	63.39 ± 4.02	74.22 ± 1.75	62.87 ± 4.80	55.86 ± 5.10	42.28 ± 0.00	0.00 ± 0.00	51.98 ± 7.31	48.31 ± 8.27	29.72 ± 10.09	56.30 ± 2.20
T3-A3	73.62 ± 1.19	73.21 ± 1.99	81.25 ± 0.90	72.89 ± 1.85	73.15 ± 0.78	69.55 ± 1.23	0.00 ± 0.00	72.55 ± 1.28	67.61 ± 8.34	00.00 ± 00.00	56.44 ± 2.34
T3-A4	66.00 ± 4.54	74.45 ± 2.17	78.44 ± 0.81	72.01 ± 1.92	63.27 ± 3.05	74.09 ± 0.85	0.00 ± 0.00	65.41 ± 5.20	60.45 ± 2.68	37.19 ± 12.84	46.21 ± 0.92
T3-A5	20.68 ± 6.07	24.10 ± 5.90	37.70 ± 3.47	30.18 ± 6.19	36.55 ± 3.61	21.91 ± 2.67	0.00 ± 0.00	20.66 ± 6.46	25.85 ± 7.88	27.12 ± 9.91	0.54 ± 0.95
T3-A6	00.00 ± 00.00	00.00 ± 00.00	00.00 ± 00.00	00.00 ± 00.00	44.77 ± 6.61	00.00 ± 00.00	00.00 ± 00.00	00.00 ± 00.00	00.00 ± 00.00	00.00 ± 00.00	15.31 ± 2.78
T3-A7	51.59 ± 7.82	55.53 ± 9.51	67.34 ± 2.17	54.03 ± 3.24	55.19 ± 6.39	45.58 ± 6.14	0.00 ± 0.00	56.68 ± 8.77	50.40 ± 6.58	33.42 ± 0.36	32.98 ± 0.40
T3-A8	41.99 ± 9.54	64.38 ± 4.96	63.80 ± 1.75	59.56 ± 4.82	46.01 ± 5.96	54.57 ± 1.24	0.00 ± 0.00	46.53 ± 11.31	40.66 ± 7.00	34.18 ± 2.67	45.36 ± 1.37
T3-A9	55.30 ± 10.68	77.88 ± 4.94	81.46 ± 2.01	68.52 ± 4.76	47.75 ± 7.21	55.67 ± 3.09	0.00 ± 0.00	54.89 ± 8.04	40.09 ± 6.51	33.35 ± 0.05	61.68 ± 1.31
T3-A10	67.63 ± 3.03	82.77 ± 1.95	91.01 ± 1.22	81.69 ± 3.96	63.58 ± 2.45	70.56 ± 1.00	0.00 ± 0.00	63.90 ± 1.98	61.34 ± 2.53	32.80 ± 7.61	76.95 ± 1.76
T3-A11	65.61 ± 4.06	84.80 ± 1.88	90.37 ± 1.55	82.07 ± 2.89	61.50 ± 5.89	54.14 ± 4.72	0.00 ± 0.00	63.23 ± 5.77	63.53 ± 6.27	44.64 ± 12.77	77.05 ± 2.13
T3-A12	70.82 ± 3.51	83.61 ± 1.65	89.46 ± 1.26	81.66 ± 2.96	63.52 ± 5.04	48.50 ± 3.91	0.00 ± 0.00	67.71 ± 4.27	64.33 ± 5.85	37.81 ± 13.71	75.18 ± 1.67
T3-A13	62.39 ± 4.18	77.14 ± 1.85	87.76 ± 0.97	75.93 ± 3.87	53.88 ± 3.42	49.21 ± 4.21	34.47 ± 34.53	61.21 ± 3.36	58.09 ± 4.62	39.99 ± 8.92	72.92 ± 4.54
T3-A14	68.05 ± 3.54	71.80 ± 2.42	79.04 ± 1.11	68.86 ± 1.94	66.74 ± 3.11	61.54 ± 4.67	73.80 ± 1.64	67.75 ± 4.01	69.13 ± 4.41	38.27 ± 14.44	73.83 ± 0.96
T3-A15	63.51 ± 4.90	69.15 ± 1.07	77.13 ± 1.26	67.45 ± 2.93	60.21 ± 5.70	65.63 ± 3.23	49.31 ± 34.87	66.32 ± 2.49	64.09 ± 2.80	33.38 ± 8.50	72.34 ± 1.18
T3-B1	20.03 ± 2.99	21.15 ± 0.07	11.11 ± 0.00	12.08 ± 2.90	22.26 ± 3.32	14.86 ± 1.61	22.63 ± 10.59	21.21 ± 0.03	11.01 ± 0.30	11.11 ± 0.00	11.13 ± 0.05
T3-B2	59.84 ± 15.25	69.23 ± 5.35	11.11 ± 0.00	15.63 ± 12.50	50.32 ± 9.92	73.54 ± 2.48	11.11 ± 0.00	67.44 ± 10.49	51.62 ± 15.15	11.60 ± 1.47	82.51 ± 11.63
T3-B3	91.02 ± 3.50	94.69 ± 0.92	96.93 ± 0.06	89.46 ± 1.22	77.41 ± 5.64	92.23 ± 0.57	81.42 ± 31.45	89.48 ± 2.07	90.76 ± 4.72	15.00 ± 4.37	87.40 ± 1.76
T3-B4	94.70 ± 3.78	97.02 ± 0.30	98.83 ± 0.17	94.82 ± 0.54	92.14 ± 1.26	96.24 ± 0.17	97.85 ± 0.33	94.74 ± 3.89	91.62 ± 5.29	15.15 ± 4.86	96.33 ± 2.83
T4-A1	89.30 ± 1.50	95.24 ± 0.42	96.24 ± 0.14	90.99 ± 1.26	85.80 ± 2.67	94.04 ± 0.97	11.11 ± 0.00	88.33 ± 2.02	85.80 ± 5.08	12.72 ± 5.71	92.42 ± 0.73

T4-A2	51.32 ± 2.40	68.92 ± 4.71	76.11 ± 0.18	58.51 ± 4.61	52.01 ± 3.17	50.25 ± 1.39	0.00 ± 0.00	50.39 ± 3.24	49.90 ± 3.66	29.48 ± 7.72	50.68 ± 3.71
T4-A3	74.36 ± 0.40	76.76 ± 0.87	80.70 ± 0.87	72.64 ± 1.52	74.03 ± 0.50	72.28 ± 1.80	0.00 ± 0.00	74.66 ± 0.69	74.65 ± 0.39	30.15 ± 9.90	57.43 ± 0.65
T4-A4	63.11 ± 7.15	81.53 ± 1.71	86.25 ± 0.77	74.80 ± 1.24	56.21 ± 7.09	74.56 ± 0.95	0.00 ± 0.00	59.36 ± 6.63	59.65 ± 7.10	36.31 ± 12.23	43.98 ± 2.25
T4-A5	20.51 ± 6.98	21.69 ± 2.25	40.94 ± 2.05	28.07 ± 6.03	38.41 ± 4.21	20.65 ± 3.51	0.00 ± 0.00	28.09 ± 6.98	29.24 ± 5.23	23.44 ± 8.31	0.52 ± 0.74
T4-A6	00.00 ± 00.00	00.00 ± 00.00	00.00 ± 00.00	00.00 ± 00.00	45.14 ± 5.95	00.00 ± 00.00	00.00 ± 00.00	00.00 ± 00.00	00.00 ± 00.00	00.00 ± 00.00	17.34 ± 3.24
T4-A7	58.36 ± 10.38	58.63 ± 6.78	77.26 ± 1.12	66.94 ± 6.40	68.67 ± 2.98	42.25 ± 8.11	21.68 ± 30.67	59.03 ± 11.56	56.27 ± 8.92	33.33 ± 0.00	33.29 ± 0.28
T4-A8	45.04 ± 9.31	63.75 ± 8.44	76.95 ± 0.68	69.10 ± 6.36	37.69 ± 7.33	60.03 ± 5.14	0.00 ± 0.00	45.84 ± 9.67	41.34 ± 7.47	33.42 ± 0.26	45.74 ± 2.92
T4-A9	49.64 ± 6.65	70.46 ± 6.01	80.63 ± 0.44	67.73 ± 3.93	40.15 ± 6.57	54.76 ± 1.45	0.00 ± 0.00	52.01 ± 6.77	40.27 ± 7.87	35.53 ± 4.77	46.69 ± 2.52
T4-A10	55.47 ± 6.17	80.61 ± 2.82	90.78 ± 1.97	69.50 ± 3.62	50.64 ± 2.07	51.78 ± 0.00	0.00 ± 0.00	50.54 ± 2.91	53.25 ± 4.23	37.91 ± 7.34	70.89 ± 2.92
T4-A11	44.91 ± 3.78	67.09 ± 3.16	83.95 ± 1.21	64.27 ± 6.87	45.44 ± 3.35	64.34 ± 0.00	0.00 ± 0.00	43.25 ± 3.62	52.73 ± 8.54	49.25 ± 9.47	64.70 ± 2.56
T4-A12	59.75 ± 5.64	76.50 ± 2.86	91.26 ± 0.04	69.42 ± 1.96	48.88 ± 4.11	50.73 ± 5.18	0.00 ± 0.00	53.23 ± 5.46	57.90 ± 6.62	37.79 ± 10.21	70.33 ± 2.73
T4-A13	57.38 ± 5.91	66.90 ± 3.42	84.35 ± 0.76	66.42 ± 3.29	47.24 ± 5.84	53.48 ± 5.91	0.00 ± 0.00	58.52 ± 5.74	47.41 ± 5.42	40.08 ± 15.29	64.98 ± 3.02
T4-A14	57.64 ± 2.92	65.47 ± 2.69	78.42 ± 0.08	58.20 ± 2.45	49.91 ± 3.66	51.77 ± 5.59	0.00 ± 0.00	58.20 ± 3.55	55.31 ± 4.78	31.93 ± 13.13	61.24 ± 1.32
T4-A15	53.60 ± 4.64	62.42 ± 2.30	73.63 ± 0.13	54.20 ± 1.56	47.84 ± 3.95	56.98 ± 5.88	0.00 ± 0.00	52.14 ± 5.26	50.87 ± 4.86	31.87 ± 13.20	57.55 ± 1.59
T4-B1	20.53 ± 0.39	20.33 ± 0.43	11.11 ± 0.00	12.84 ± 3.41	22.45 ± 4.20	15.46 ± 2.47	23.17 ± 8.76	19.59 ± 2.87	11.11 ± 0.00	11.11 ± 0.00	11.03 ± 0.13
T4-B2	43.31 ± 4.99	63.51 ± 5.39	51.20 ± 40.09	14.76 ± 10.89	37.65 ± 7.91	51.19 ± 1.22	44.92 ± 33.93	56.45 ± 7.15	40.91 ± 7.73	12.22 ± 3.24	54.49 ± 19.45
T4-B3	72.02 ± 3.46	89.95 ± 1.44	92.85 ± 0.24	79.29 ± 1.80	64.25 ± 0.31	75.12 ± 2.62	87.03 ± 1.07	73.23 ± 3.14	70.05 ± 6.27	15.91 ± 4.86	71.99 ± 2.92
T4-B4	84.10 ± 4.17	96.99 ± 0.29	97.70 ± 0.00	89.04 ± 1.04	81.73 ± 2.74	92.24 ± 0.77	64.70 ± 37.89	84.90 ± 5.12	85.55 ± 5.45	16.38 ± 6.69	90.70 ± 2.16
Average	59.69	64.67	68.90	61.61	60.38	57.67	20.20	59.92	56.60	26.85	56.93
Std	23.90	25.07	28.72	26.85	17.70	24.82	33.06	23.76	24.29	12.42	26.48

(f) HUSTgearbox

Task	FedAvg	FedAM	DACS	FedSR	FADGN	FDDG	FedDGGGA	FedIIR	FedGMA	FedGM	FedDGFD
T1-A1	81.18 \pm 1.05	72.34 \pm 5.69	74.65 \pm 4.52	76.00 \pm 1.99	81.89 \pm 0.91	86.90 \pm 5.49	33.33 \pm 0.00	80.70 \pm 1.20	82.46 \pm 1.41	64.60 \pm 2.81	80.54 \pm 1.16
T1-A2	79.14 \pm 4.01	86.09 \pm 2.42	88.05 \pm 3.44	71.72 \pm 2.59	78.54 \pm 2.35	00.00 \pm 00.00	0.00 \pm 0.00	78.83 \pm 2.95	81.95 \pm 2.60	70.86 \pm 3.03	79.93 \pm 1.33
T1-A3	47.01 \pm 0.85	52.52 \pm 3.63	62.91 \pm 3.73	47.46 \pm 1.33	47.76 \pm 0.76	48.73 \pm 2.92	0.00 \pm 0.00	46.12 \pm 0.60	47.78 \pm 0.99	43.91 \pm 13.19	46.78 \pm 0.54
T1-B1	43.96 \pm 6.28	39.14 \pm 3.41	33.33 \pm 0.00	33.33 \pm 0.00	44.12 \pm 5.97	58.48 \pm 13.27	50.80 \pm 8.90	38.32 \pm 6.79	33.33 \pm 0.00	33.33 \pm 0.00	40.75 \pm 11.10
T1-B2	46.22 \pm 11.63	39.44 \pm 11.65	47.22 \pm 4.47	40.25 \pm 1.56	62.19 \pm 3.64	43.56 \pm 8.73	33.33 \pm 0.00	35.20 \pm 3.07	43.16 \pm 8.80	33.33 \pm 0.00	39.58 \pm 10.04
T1-B3	57.31 \pm 2.31	55.79 \pm 2.46	64.63 \pm 7.14	51.37 \pm 3.23	62.29 \pm 5.59	80.88 \pm 8.08	67.82 \pm 5.41	56.61 \pm 15.05	73.63 \pm 7.73	58.33 \pm 8.45	61.95 \pm 9.67
T1-B4	76.75 \pm 3.29	62.09 \pm 6.33	74.54 \pm 1.37	71.53 \pm 2.60	75.48 \pm 0.68	81.04 \pm 5.80	33.33 \pm 0.00	75.52 \pm 1.19	76.51 \pm 0.90	63.89 \pm 1.53	73.56 \pm 0.74
T2-A1	98.98 \pm 0.19	98.88 \pm 0.34	99.12 \pm 0.36	97.74 \pm 0.68	99.25 \pm 0.18	93.50 \pm 1.68	33.33 \pm 0.00	99.06 \pm 0.20	99.03 \pm 0.40	69.61 \pm 13.65	98.59 \pm 0.38
T2-A2	71.48 \pm 2.93	82.66 \pm 4.28	89.30 \pm 2.77	67.19 \pm 2.61	71.77 \pm 1.54	00.00 \pm 00.00	0.00 \pm 0.00	74.69 \pm 2.97	72.19 \pm 2.27	65.55 \pm 1.90	70.36 \pm 1.05
T2-A3	52.07 \pm 1.54	65.36 \pm 4.68	67.59 \pm 5.49	56.68 \pm 2.14	54.61 \pm 0.72	58.06 \pm 6.26	0.00 \pm 0.00	53.83 \pm 2.56	52.96 \pm 1.82	37.25 \pm 2.16	48.78 \pm 0.68
T2-B1	63.63 \pm 6.98	65.88 \pm 5.08	33.33 \pm 0.00	35.51 \pm 6.52	48.50 \pm 14.11	61.31 \pm 6.01	72.21 \pm 13.45	46.04 \pm 14.68	38.63 \pm 10.60	33.33 \pm 0.00	34.49 \pm 4.73
T2-B2	42.51 \pm 8.89	65.02 \pm 9.20	60.67 \pm 3.44	47.21 \pm 2.95	59.29 \pm 4.80	39.17 \pm 4.78	43.76 \pm 12.79	38.11 \pm 3.00	36.98 \pm 6.88	36.20 \pm 8.59	41.16 \pm 8.80
T2-B3	98.04 \pm 0.80	98.88 \pm 0.27	98.32 \pm 0.43	94.37 \pm 1.53	98.52 \pm 1.11	90.92 \pm 1.30	99.01 \pm 0.28	75.08 \pm 15.66	96.22 \pm 0.67	53.11 \pm 8.99	83.94 \pm 15.01
T2-B4	98.52 \pm 0.46	97.86 \pm 0.41	98.67 \pm 0.40	96.82 \pm 0.73	98.89 \pm 0.20	93.67 \pm 0.84	33.33 \pm 0.00	99.19 \pm 0.28	98.57 \pm 0.42	59.43 \pm 3.10	98.84 \pm 0.26
T3-A1	85.73 \pm 3.72	90.93 \pm 1.51	93.77 \pm 1.07	86.29 \pm 1.86	86.51 \pm 1.96	85.67 \pm 2.10	33.33 \pm 0.00	85.30 \pm 2.43	82.37 \pm 2.03	56.53 \pm 6.94	90.94 \pm 3.04
T3-A2	54.22 \pm 1.72	64.14 \pm 2.89	70.39 \pm 3.30	53.91 \pm 2.59	54.22 \pm 0.72	00.00 \pm 00.00	0.00 \pm 0.00	55.86 \pm 2.80	55.39 \pm 3.74	51.64 \pm 3.29	54.48 \pm 0.85
T3-A3	48.52 \pm 0.55	52.61 \pm 2.58	48.83 \pm 3.82	54.22 \pm 1.34	46.98 \pm 0.61	53.75 \pm 4.05	0.00 \pm 0.00	50.20 \pm 1.39	49.73 \pm 0.66	32.65 \pm 2.00	46.22 \pm 0.96
T3-B1	68.13 \pm 3.08	68.53 \pm 4.39	37.02 \pm 11.07	43.96 \pm 13.47	45.09 \pm 15.26	58.66 \pm 2.86	46.50 \pm 20.19	59.54 \pm 11.60	33.33 \pm 0.00	33.33 \pm 0.00	51.88 \pm 19.86

T3-B2	47.15 ± 8.25	68.35 ± 5.59	64.96 ± 1.15	54.31 ± 2.71	51.34 ± 7.97	47.27 ± 5.39	54.09 ± 21.29	41.77 ± 6.21	35.39 ± 4.91	33.05 ± 0.90	47.50 ± 10.34
T3-B3	86.26 ± 0.88	87.65 ± 1.42	00.00 ± 00.00	81.11 ± 2.06	84.20 ± 2.36	81.67 ± 2.47	87.99 ± 1.15	67.74 ± 10.13	90.37 ± 1.59	47.61 ± 9.08	78.93 ± 11.13
T3-B4	84.92 ± 1.27	89.53 ± 1.95	00.00 ± 00.00	87.44 ± 0.72	84.30 ± 3.00	86.76 ± 2.02	33.33 ± 0.00	83.20 ± 1.22	84.47 ± 2.31	53.96 ± 0.69	86.35 ± 1.89
T4-A1	94.26 ± 1.03	95.77 ± 0.49	00.00 ± 00.00	92.31 ± 1.79	94.96 ± 0.88	78.73 ± 5.74	33.33 ± 0.00	92.44 ± 2.13	89.12 ± 8.79	59.41 ± 14.54	96.82 ± 0.83
T4-A2	47.11 ± 2.18	48.52 ± 3.25	00.00 ± 00.00	46.72 ± 2.77	46.82 ± 0.75	00.00 ± 00.00	0.00 ± 0.00	47.27 ± 2.48	46.88 ± 2.24	44.69 ± 2.20	46.72 ± 0.41
T4-A3	60.96 ± 1.00	62.11 ± 3.22	00.00 ± 00.00	60.81 ± 1.82	52.88 ± 0.98	51.30 ± 2.68	0.00 ± 0.00	60.23 ± 1.97	59.97 ± 1.49	38.04 ± 13.28	43.23 ± 0.51
T4-B1	65.32 ± 5.38	68.11 ± 4.02	00.00 ± 00.00	36.75 ± 8.66	52.28 ± 14.84	55.66 ± 3.70	69.74 ± 2.94	54.52 ± 21.65	33.33 ± 0.00	33.33 ± 0.00	49.14 ± 15.62
T4-B2	64.17 ± 8.84	67.88 ± 4.02	00.00 ± 00.00	61.89 ± 1.46	72.92 ± 3.02	49.46 ± 4.23	38.19 ± 14.56	59.80 ± 3.47	50.76 ± 3.04	34.05 ± 2.47	54.31 ± 10.44
T4-B3	89.72 ± 3.83	94.84 ± 0.76	91.46 ± 1.30	84.67 ± 3.60	92.39 ± 2.05	71.16 ± 6.43	70.33 ± 30.21	79.31 ± 13.29	87.74 ± 3.24	48.88 ± 4.87	86.82 ± 8.00
T4-B4	95.67 ± 0.20	96.37 ± 0.38	95.44 ± 0.60	91.22 ± 0.82	93.71 ± 0.83	84.81 ± 3.25	33.33 ± 0.00	94.96 ± 1.25	95.20 ± 1.23	49.20 ± 5.24	95.38 ± 0.84
Average	69.61	72.76	53.36	65.10	69.35	58.61	35.73	65.34	65.27	47.83	65.28
Std	18.91	18.08	36.04	20.28	19.00	28.87	28.33	19.14	22.84	12.61	21.03

(g) Cross-Machine

Task	FedAvg	FedAM	DACS	FedSR	FADGN	FDDG	FedDGGA	FedIIR	FedGMA	FedGM	FedDGFD
T1-G1	55.41 \pm 2.52	53.19 \pm 1.22	54.31 \pm 1.26	0.00 \pm 0.00	57.49 \pm 3.95	56.60 \pm 5.03	53.16 \pm 3.94	56.69 \pm 1.66	62.42 \pm 1.43	57.56 \pm 12.13	42.79 \pm 9.25
T2-G1	20.75 \pm 0.30	12.95 \pm 0.72	15.31 \pm 0.58	0.00 \pm 0.00	18.75 \pm 0.98	18.27 \pm 1.93	21.46 \pm 0.73	20.10 \pm 0.37	18.19 \pm 1.03	33.64 \pm 6.89	19.51 \pm 0.94
T3-G1	40.63 \pm 1.93	37.30 \pm 1.78	38.82 \pm 1.61	0.00 \pm 0.00	38.16 \pm 3.04	27.38 \pm 6.58	34.56 \pm 7.02	41.82 \pm 2.61	43.91 \pm 2.31	22.51 \pm 7.40	34.38 \pm 4.98
T4-G1	64.33 \pm 3.49	63.81 \pm 2.86	66.11 \pm 3.91	0.00 \pm 0.00	37.33 \pm 2.94	40.81 \pm 4.13	83.08 \pm 5.98	64.68 \pm 4.20	70.20 \pm 6.70	56.77 \pm 14.96	57.66 \pm 7.88
T1-G2	62.65 \pm 1.38	52.99 \pm 2.86	51.06 \pm 3.30	0.00 \pm 0.00	59.53 \pm 1.12	58.62 \pm 3.95	55.90 \pm 6.36	67.33 \pm 2.72	76.02 \pm 2.64	41.90 \pm 12.80	56.83 \pm 5.73
T2-G2	33.88 \pm 1.86	30.78 \pm 0.95	35.76 \pm 0.85	0.00 \pm 0.00	23.81 \pm 1.31	20.87 \pm 1.90	32.06 \pm 3.00	34.62 \pm 1.48	28.59 \pm 2.08	38.45 \pm 2.73	37.96 \pm 3.00
T3-G2	49.53 \pm 2.30	46.92 \pm 1.83	45.89 \pm 1.84	0.00 \pm 0.00	53.19 \pm 1.54	43.39 \pm 4.00	43.45 \pm 2.74	51.72 \pm 2.98	51.04 \pm 2.08	17.62 \pm 10.59	52.26 \pm 3.43
T4-G2	26.57 \pm 1.87	20.27 \pm 2.18	20.96 \pm 1.89	0.00 \pm 0.00	20.96 \pm 2.11	29.58 \pm 5.40	36.77 \pm 15.69	27.00 \pm 2.66	32.40 \pm 2.62	52.68 \pm 13.00	25.88 \pm 3.59
T1-G3	27.32 \pm 0.86	22.76 \pm 1.32	23.94 \pm 0.77	31.08 \pm 1.20	33.27 \pm 0.91	24.18 \pm 1.68	28.13 \pm 1.18	30.34 \pm 2.14	32.74 \pm 1.28	35.00 \pm 7.99	31.25 \pm 4.76
T2-G3	63.77 \pm 0.44	53.12 \pm 1.48	53.47 \pm 1.15	62.13 \pm 0.78	67.00 \pm 1.66	67.01 \pm 3.60	67.66 \pm 1.44	64.25 \pm 0.62	64.51 \pm 0.45	49.26 \pm 9.14	65.71 \pm 1.16
T3-G3	63.32 \pm 1.30	61.57 \pm 0.83	59.42 \pm 1.46	58.24 \pm 0.98	62.71 \pm 0.76	59.40 \pm 9.99	59.85 \pm 4.79	62.44 \pm 1.46	65.57 \pm 1.43	54.76 \pm 9.20	56.64 \pm 2.97
T4-G3	53.45 \pm 2.62	57.56 \pm 3.72	59.64 \pm 6.02	43.64 \pm 2.45	75.25 \pm 2.87	41.51 \pm 8.69	80.60 \pm 4.35	56.09 \pm 2.58	0.00 \pm 0.00	53.42 \pm 14.64	57.75 \pm 6.88
T1-G4	30.85 \pm 1.85	27.58 \pm 3.22	34.32 \pm 2.39	27.00 \pm 1.53	47.28 \pm 2.65	29.41 \pm 7.46	46.31 \pm 2.58	30.68 \pm 2.79	30.20 \pm 2.24	28.07 \pm 7.45	37.78 \pm 4.78
T2-G4	62.17 \pm 2.57	53.78 \pm 2.35	50.77 \pm 2.48	59.33 \pm 1.81	69.65 \pm 1.21	51.21 \pm 4.03	55.95 \pm 2.52	64.92 \pm 2.05	74.17 \pm 1.40	45.47 \pm 14.41	59.69 \pm 10.55
T3-G4	35.46 \pm 2.74	34.29 \pm 0.65	37.03 \pm 0.72	34.39 \pm 1.55	39.82 \pm 0.83	25.93 \pm 7.07	33.41 \pm 3.16	37.73 \pm 1.37	37.04 \pm 1.75	34.52 \pm 6.67	27.99 \pm 4.64
T4-G4	27.39 \pm 3.22	22.17 \pm 1.58	19.56 \pm 1.53	24.34 \pm 1.72	37.57 \pm 3.66	31.32 \pm 5.39	45.88 \pm 8.45	27.71 \pm 3.08	37.65 \pm 2.50	47.01 \pm 13.56	26.76 \pm 2.20
Average	44.84	40.69	41.65	21.26	46.36	39.09	48.64	46.13	45.29	41.79	43.18
Std	15.52	16.01	15.35	23.61	17.27	14.99	17.44	15.96	21.29	12.02	14.34

B3 Impact of Feature Space Heterogeneity

B3.1 Top-1 Classification Accuracy and Standard Deviations

Task	FedAvg	FedAM	DACS	FedSR	FADGN	FDDG	FedDGGA	FedIIR	FedGMA	FedGM	FedDGFD
Task1-T1	54.18 \pm 6.43	28.71 \pm 5.68	19.66 \pm 4.22	50.91 \pm 5.98	57.30 \pm 4.35	62.63 \pm 8.22	20.00 \pm 0.00	58.70 \pm 1.75	12.85 \pm 7.23	54.20 \pm 4.93	68.70 \pm 12.54
Task1-T2	63.33 \pm 5.32	68.52 \pm 4.19	81.25 \pm 2.35	66.21 \pm 7.27	59.96 \pm 4.34	71.88 \pm 6.67	20.00 \pm 0.00	63.84 \pm 6.20	9.92 \pm 7.93	53.18 \pm 3.44	81.57 \pm 13.60
Task1-T3	51.28 \pm 4.06	31.93 \pm 4.78	35.51 \pm 6.86	56.74 \pm 5.04	48.09 \pm 2.57	55.92 \pm 6.27	20.00 \pm 0.00	53.40 \pm 2.90	9.90 \pm 9.47	53.85 \pm 5.31	71.33 \pm 4.00
Task1-T4	60.20 \pm 6.23	23.62 \pm 4.46	20.77 \pm 6.77	47.84 \pm 7.43	48.16 \pm 5.94	60.24 \pm 4.80	20.00 \pm 0.00	53.71 \pm 7.75	11.62 \pm 9.64	44.26 \pm 2.86	71.56 \pm 6.17
Task1-T5	45.93 \pm 2.71	31.64 \pm 4.90	36.81 \pm 4.52	41.74 \pm 4.89	51.17 \pm 3.48	53.20 \pm 7.94	20.00 \pm 0.00	47.44 \pm 5.10	13.50 \pm 9.80	56.86 \pm 4.00	76.49 \pm 4.00
Task1-T6	49.37 \pm 5.60	27.50 \pm 4.13	38.86 \pm 7.30	48.92 \pm 4.86	48.16 \pm 3.94	43.87 \pm 3.18	20.00 \pm 0.00	48.77 \pm 4.18	6.31 \pm 8.67	59.20 \pm 1.67	73.91 \pm 5.16
Task1-T7	96.63 \pm 3.43	52.38 \pm 11.36	56.59 \pm 6.57	74.57 \pm 12.41	87.13 \pm 7.34	95.24 \pm 7.69	20.00 \pm 0.00	96.88 \pm 1.61	11.27 \pm 9.34	84.16 \pm 6.58	90.31 \pm 2.79
Task1-T8	81.36 \pm 5.61	76.08 \pm 7.53	56.49 \pm 8.04	53.76 \pm 9.91	59.24 \pm 9.15	86.87 \pm 15.41	20.00 \pm 0.00	84.59 \pm 6.91	7.98 \pm 9.18	34.93 \pm 8.36	95.14 \pm 2.98
Task1-T9	83.41 \pm 6.43	77.27 \pm 10.96	47.26 \pm 12.67	71.69 \pm 11.59	69.50 \pm 8.31	99.92 \pm 0.16	20.00 \pm 0.00	82.84 \pm 6.00	8.03 \pm 5.69	29.51 \pm 10.98	97.19 \pm 2.25
Task1-T10	69.38 \pm 8.21	18.50 \pm 2.00	15.35 \pm 6.82	42.53 \pm 8.30	49.76 \pm 9.99	80.48 \pm 16.45	20.00 \pm 0.00	61.57 \pm 6.97	13.11 \pm 11.40	33.08 \pm 13.15	78.71 \pm 9.79
Task1-T11	76.58 \pm 5.67	39.53 \pm 3.87	37.64 \pm 10.19	60.84 \pm 7.18	66.10 \pm 6.10	78.64 \pm 3.79	20.00 \pm 0.00	79.78 \pm 6.25	15.53 \pm 14.51	76.65 \pm 5.59	94.52 \pm 2.98
Task1-T12	92.87 \pm 3.49	37.93 \pm 6.26	63.99 \pm 13.04	80.74 \pm 8.26	78.82 \pm 6.87	98.10 \pm 2.47	20.00 \pm 0.00	84.80 \pm 9.28	8.10 \pm 7.96	85.96 \pm 5.09	84.47 \pm 5.38
Task1-T13	87.06 \pm 5.31	49.67 \pm 8.51	62.58 \pm 13.40	82.00 \pm 6.43	77.11 \pm 7.74	97.74 \pm 4.39	20.00 \pm 0.00	88.81 \pm 6.92	11.99 \pm 10.49	80.63 \pm 4.10	77.99 \pm 2.90
Task1-T14	88.86 \pm 4.00	33.71 \pm 10.72	73.62 \pm 11.82	79.99 \pm 4.84	82.98 \pm 7.51	99.97 \pm 0.05	20.00 \pm 0.00	88.43 \pm 4.80	13.64 \pm 8.35	85.68 \pm 5.59	85.05 \pm 4.85
Task2-T1	55.93 \pm 6.57	24.82 \pm 4.47	20.39 \pm 2.95	54.34 \pm 4.92	59.10 \pm 1.21	52.32 \pm 5.93	20.00 \pm 0.00	59.33 \pm 4.21	12.12 \pm 10.31	49.86 \pm 8.02	76.36 \pm 4.68

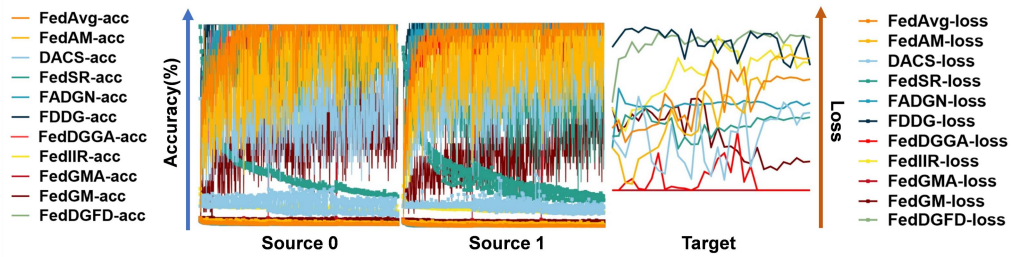
Task2-T2	61.43 ± 2.51	67.79 ± 6.21	74.62 ± 4.52	60.65 ± 2.64	60.50 ± 4.44	80.48 ± 0.84	20.00 ± 0.00	60.87 ± 2.20	9.36 ± 10.67	56.82 ± 2.01	79.17 ± 13.26
Task2-T3	48.66 ± 2.51	22.09 ± 3.64	29.93 ± 4.03	61.55 ± 2.96	49.50 ± 2.52	58.31 ± 1.09	20.00 ± 0.00	48.99 ± 2.41	13.16 ± 12.10	52.09 ± 3.86	63.45 ± 2.61
Task2-T4	48.76 ± 4.11	11.84 ± 4.95	24.05 ± 7.98	56.39 ± 4.25	48.68 ± 6.31	65.59 ± 11.65	20.00 ± 0.00	52.98 ± 4.82	4.63 ± 6.71	46.22 ± 3.67	73.60 ± 7.68
Task2-T5	46.44 ± 1.83	31.72 ± 3.45	38.57 ± 5.46	44.08 ± 3.79	50.24 ± 2.59	49.60 ± 7.01	20.00 ± 0.00	46.53 ± 3.15	8.66 ± 8.36	50.41 ± 5.56	76.63 ± 2.29
Task2-T6	44.44 ± 1.81	29.24 ± 5.15	31.51 ± 4.28	48.86 ± 6.96	46.37 ± 2.58	42.38 ± 1.84	20.00 ± 0.00	44.79 ± 3.23	10.89 ± 9.47	47.99 ± 5.07	68.12 ± 11.71
Task2-T7	92.68 ± 3.87	46.32 ± 7.04	57.11 ± 12.97	78.49 ± 10.92	80.76 ± 6.86	98.14 ± 2.33	20.00 ± 0.00	94.01 ± 1.78	10.60 ± 9.37	79.78 ± 11.46	69.02 ± 5.85
Task2-T8	75.51 ± 8.34	70.57 ± 10.30	34.19 ± 7.27	60.76 ± 13.67	62.54 ± 4.54	94.40 ± 8.04	20.00 ± 0.00	67.27 ± 8.09	10.58 ± 8.73	49.83 ± 6.27	89.36 ± 5.46
Task2-T9	79.48 ± 6.75	62.49 ± 9.86	43.72 ± 8.58	61.84 ± 11.02	58.35 ± 8.72	99.81 ± 0.32	20.00 ± 0.00	78.20 ± 8.46	8.32 ± 8.84	49.81 ± 7.15	90.49 ± 1.09
Task2-T10	52.47 ± 6.83	9.10 ± 3.60	21.41 ± 8.21	47.03 ± 11.61	45.68 ± 13.32	62.81 ± 6.05	20.00 ± 0.00	56.73 ± 5.89	11.52 ± 9.98	43.67 ± 7.68	65.35 ± 12.15
Task2-T11	73.37 ± 4.38	37.95 ± 5.62	52.73 ± 9.31	62.55 ± 4.63	60.12 ± 6.14	65.72 ± 6.98	20.00 ± 0.00	67.54 ± 6.46	17.23 ± 6.63	72.42 ± 7.29	71.83 ± 4.56
Task2-T12	85.68 ± 5.74	39.98 ± 4.98	44.51 ± 12.59	47.23 ± 6.93	78.96 ± 3.96	98.53 ± 2.61	20.00 ± 0.00	82.94 ± 4.91	14.00 ± 13.15	81.97 ± 5.30	66.58 ± 8.80
Task2-T13	86.23 ± 4.85	57.04 ± 7.25	59.14 ± 11.08	63.23 ± 6.50	80.88 ± 4.94	98.84 ± 0.97	20.00 ± 0.00	84.44 ± 4.96	13.99 ± 13.58	87.48 ± 6.35	74.14 ± 1.95
Task2-T14	86.08 ± 7.68	31.46 ± 7.94	61.25 ± 8.93	62.90 ± 5.59	78.82 ± 2.96	99.29 ± 1.12	20.00 ± 0.00	83.40 ± 8.65	12.45 ± 8.44	76.60 ± 6.01	70.56 ± 0.28
Task3-T1	54.13 ± 5.00	39.19 ± 7.60	39.21 ± 5.51	44.54 ± 5.89	51.79 ± 3.08	64.21 ± 3.80	20.00 ± 0.00	53.69 ± 6.94	11.68 ± 9.51	51.00 ± 2.70	90.85 ± 3.74
Task3-T2	62.38 ± 4.08	63.87 ± 3.82	71.67 ± 3.41	66.18 ± 3.30	60.42 ± 5.97	74.69 ± 6.74	20.00 ± 0.00	60.37 ± 2.81	13.30 ± 8.73	57.03 ± 3.79	84.38 ± 4.24
Task3-T3	51.93 ± 2.96	43.32 ± 8.51	43.88 ± 4.65	61.45 ± 2.45	54.89 ± 2.70	58.50 ± 0.86	20.00 ± 0.00	53.18 ± 3.67	5.82 ± 7.38	50.11 ± 3.44	72.60 ± 7.29
Task3-T4	53.17 ± 3.77	31.70 ± 6.38	41.17 ± 8.11	49.61 ± 3.46	47.86 ± 3.80	54.63 ± 3.86	20.00 ± 0.00	51.89 ± 4.12	5.21 ± 8.28	49.69 ± 3.19	67.48 ± 4.97
Task3-T5	54.60 ± 2.04	39.90 ± 4.23	53.55 ± 5.65	56.14 ± 6.95	53.60 ± 3.52	50.65 ± 6.81	20.00 ± 0.00	53.36 ± 2.53	11.95 ± 7.98	55.23 ± 3.83	72.69 ± 5.09
Task3-T6	50.72 ± 2.63	48.01 ± 5.34	49.42 ± 9.61	62.59 ± 7.44	53.79 ± 3.89	51.74 ± 5.57	20.00 ± 0.00	52.42 ± 3.49	18.22 ± 7.41	50.67 ± 5.45	74.86 ± 6.03
Task3-T7	90.89 ± 3.04	55.98 ± 7.22	79.68 ± 5.96	71.15 ± 8.14	92.40 ± 2.95	97.17 ± 1.68	20.00 ± 0.00	91.21 ± 3.05	6.34 ± 9.76	86.53 ± 3.56	79.12 ± 9.41

Task3-T8	65.91 ± 10.89	53.73 ± 12.68	46.99 ± 14.29	55.23 ± 10.12	60.36 ± 9.71	85.43 ± 5.06	20.00 ± 0.00	65.23 ± 7.40	9.05 ± 8.41	47.56 ± 5.71	87.36 ± 8.46
Task3-T9	69.06 ± 4.99	62.56 ± 11.34	51.53 ± 7.51	54.46 ± 6.24	55.35 ± 7.72	99.97 ± 0.06	20.00 ± 0.00	71.23 ± 5.61	8.47 ± 9.79	32.83 ± 9.58	81.52 ± 10.36
Task3-T10	59.46 ± 1.87	22.46 ± 4.19	29.01 ± 5.76	49.01 ± 5.83	41.66 ± 9.76	65.53 ± 11.62	20.00 ± 0.00	56.97 ± 3.92	10.05 ± 9.11	40.65 ± 9.04	69.57 ± 5.03
Task3-T11	79.51 ± 3.29	46.49 ± 5.03	50.05 ± 7.20	64.40 ± 6.16	75.99 ± 5.49	84.83 ± 5.36	20.00 ± 0.00	77.10 ± 7.01	7.31 ± 8.87	80.83 ± 3.41	82.97 ± 5.16
Task3-T12	93.78 ± 2.18	51.84 ± 6.56	75.01 ± 9.72	65.94 ± 7.94	88.19 ± 3.33	98.17 ± 1.48	20.00 ± 0.00	91.15 ± 2.94	7.70 ± 7.72	80.61 ± 7.91	74.55 ± 9.61
Task3-T13	92.94 ± 3.76	68.19 ± 6.13	75.12 ± 6.94	71.76 ± 10.26	92.39 ± 3.24	98.68 ± 0.61	20.00 ± 0.00	89.03 ± 3.72	5.91 ± 8.92	93.76 ± 2.73	93.70 ± 1.72
Task3-T14	94.65 ± 2.46	65.56 ± 3.57	71.53 ± 10.78	72.12 ± 7.89	85.66 ± 4.37	97.91 ± 0.78	20.00 ± 0.00	89.84 ± 7.16	16.77 ± 6.91	84.15 ± 5.70	88.90 ± 5.19
Task4-T1	44.69 ± 7.75	20.33 ± 3.15	24.28 ± 5.73	39.75 ± 1.46	47.49 ± 5.96	40.75 ± 5.57	20.00 ± 0.00	42.01 ± 9.61	11.41 ± 9.88	35.47 ± 9.87	40.26 ± 3.12
Task4-T2	55.06 ± 1.32	42.05 ± 4.74	40.00 ± 0.00	43.52 ± 0.46	45.07 ± 1.91	42.54 ± 1.90	20.00 ± 0.00	51.68 ± 2.89	11.35 ± 9.83	48.06 ± 4.14	55.12 ± 3.69
Task4-T3	52.89 ± 3.94	24.15 ± 6.39	29.24 ± 6.44	54.01 ± 2.32	46.09 ± 2.28	37.37 ± 1.96	20.00 ± 0.00	54.31 ± 2.92	13.88 ± 8.82	50.76 ± 6.28	44.25 ± 6.58
Task4-T4	51.86 ± 3.47	29.50 ± 7.01	32.47 ± 6.72	43.45 ± 0.49	46.34 ± 6.80	38.28 ± 2.85	20.00 ± 0.00	52.87 ± 3.89	5.65 ± 6.71	52.28 ± 3.54	46.56 ± 1.26
Task4-T5	52.25 ± 4.53	36.43 ± 3.35	36.06 ± 5.10	40.60 ± 5.21	46.69 ± 3.88	38.29 ± 1.72	20.00 ± 0.00	49.36 ± 1.83	10.50 ± 9.56	43.58 ± 3.63	42.84 ± 3.98
Task4-T6	48.92 ± 2.86	39.07 ± 2.76	37.83 ± 3.99	46.78 ± 3.73	41.34 ± 3.01	21.69 ± 0.98	20.00 ± 0.00	46.52 ± 3.35	19.16 ± 9.18	39.36 ± 4.71	45.06 ± 4.84
Task4-T7	49.32 ± 4.91	52.26 ± 4.41	34.13 ± 10.90	43.67 ± 1.16	50.35 ± 8.03	40.52 ± 0.85	20.00 ± 0.00	49.77 ± 2.40	12.45 ± 8.77	42.04 ± 3.70	43.52 ± 9.67
Task4-T8	31.88 ± 6.00	36.69 ± 9.34	31.17 ± 6.01	24.95 ± 7.64	24.22 ± 1.55	39.44 ± 2.07	20.00 ± 0.00	31.98 ± 6.89	6.78 ± 6.89	36.72 ± 4.39	46.01 ± 6.49
Task4-T9	36.37 ± 6.68	36.47 ± 3.30	33.65 ± 5.28	36.15 ± 9.51	23.82 ± 4.45	38.51 ± 1.57	20.00 ± 0.00	36.65 ± 7.99	12.64 ± 11.21	37.05 ± 3.78	49.82 ± 4.47
Task4-T10	47.02 ± 9.22	21.60 ± 7.23	20.95 ± 2.82	43.15 ± 4.39	23.95 ± 3.41	33.52 ± 3.66	20.00 ± 0.00	43.92 ± 9.32	8.57 ± 9.86	44.68 ± 8.16	41.03 ± 6.83
Task4-T11	47.43 ± 3.42	22.56 ± 4.92	28.59 ± 9.43	41.41 ± 1.99	44.22 ± 10.11	39.73 ± 0.53	20.00 ± 0.00	48.84 ± 3.74	8.44 ± 9.67	48.44 ± 2.92	43.61 ± 10.49
Task4-T12	55.59 ± 2.82	40.57 ± 7.16	28.05 ± 9.56	36.13 ± 8.09	55.19 ± 4.61	33.33 ± 5.88	20.00 ± 0.00	55.58 ± 4.76	17.17 ± 6.75	47.58 ± 8.59	30.43 ± 7.21
Task4-T13	51.25 ± 5.76	44.76 ± 8.10	37.50 ± 3.48	44.22 ± 3.12	57.81 ± 3.14	35.49 ± 3.31	20.00 ± 0.00	51.38 ± 3.41	13.24 ± 11.94	47.49 ± 8.63	46.92 ± 4.09

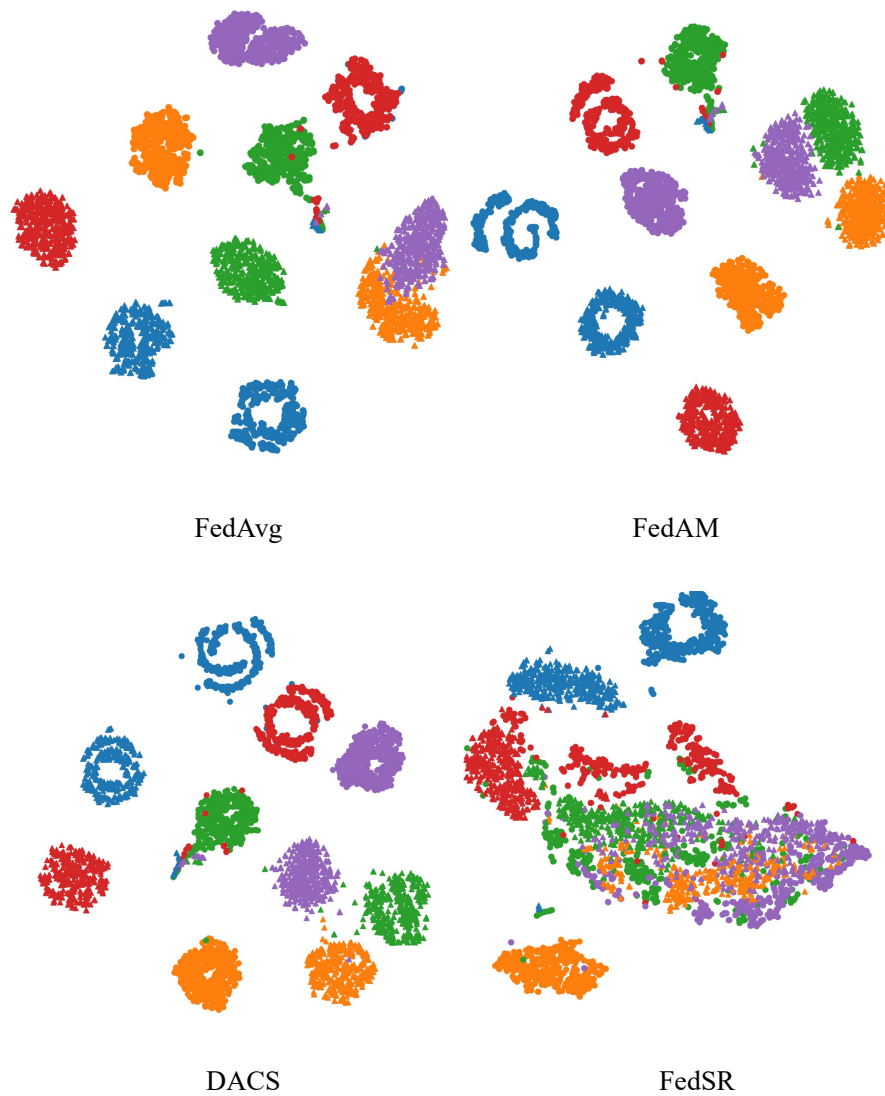
Task4-T14	45.61 ± 4.63	31.78 ± 2.78	34.21 ± 4.65	35.10 ± 5.78	41.90 ± 10.27	32.88 ± 4.76	20.00 ± 0.00	46.00 ± 6.67	10.52 ± 10.96	30.98 ± 8.11	41.80 ± 13.52
Task5-T1	37.86 ± 4.03	3.58 ± 6.03	14.91 ± 7.54	40.00 ± 0.00	29.14 ± 9.42	20.00 ± 0.00	20.00 ± 0.00	36.55 ± 5.93	16.67 ± 9.85	32.08 ± 10.40	11.55 ± 5.57
Task5-T2	39.76 ± 0.67	15.97 ± 2.89	15.30 ± 4.62	33.63 ± 6.45	20.00 ± 0.00	20.00 ± 0.00	20.00 ± 0.00	39.84 ± 0.49	12.36 ± 9.68	38.00 ± 6.00	21.92 ± 3.52
Task5-T3	39.99 ± 0.04	33.92 ± 7.54	34.26 ± 7.91	38.80 ± 1.24	39.43 ± 1.71	20.00 ± 0.00	20.00 ± 0.00	39.90 ± 0.24	3.59 ± 6.90	35.91 ± 7.96	37.41 ± 1.57
Task5-T4	30.99 ± 3.21	7.20 ± 2.42	20.77 ± 3.46	28.19 ± 10.02	29.59 ± 7.72	20.00 ± 0.00	20.00 ± 0.00	31.19 ± 3.67	5.49 ± 7.85	36.78 ± 5.73	39.49 ± 0.13
Task5-T5	40.00 ± 0.00	23.86 ± 4.49	22.61 ± 5.04	36.61 ± 1.35	40.00 ± 0.00	20.00 ± 0.00	20.00 ± 0.00	40.00 ± 0.00	10.81 ± 13.43	39.50 ± 1.37	37.55 ± 0.80
Task5-T6	39.99 ± 0.04	20.00 ± 0.00	20.36 ± 1.02	33.33 ± 2.70	38.35 ± 4.86	20.00 ± 0.00	20.00 ± 0.00	40.00 ± 0.00	10.42 ± 7.32	35.90 ± 7.96	39.40 ± 0.51
Task5-T7	39.48 ± 1.53	20.13 ± 0.87	25.18 ± 2.19	20.91 ± 2.66	19.93 ± 0.16	20.00 ± 0.00	20.00 ± 0.00	31.33 ± 6.66	12.65 ± 8.89	36.00 ± 8.00	21.69 ± 2.23
Task5-T8	40.00 ± 0.00	35.88 ± 4.93	33.61 ± 6.13	23.53 ± 4.58	39.75 ± 0.72	20.00 ± 0.00	20.00 ± 0.00	40.00 ± 0.00	5.60 ± 6.96	33.58 ± 7.72	26.40 ± 9.87
Task5-T9	40.00 ± 0.00	36.72 ± 5.83	35.60 ± 4.71	23.16 ± 4.51	39.96 ± 0.09	20.00 ± 0.00	20.00 ± 0.00	40.00 ± 0.00	6.95 ± 8.42	34.74 ± 7.58	29.21 ± 7.55
Task5-T10	39.99 ± 0.04	24.00 ± 4.63	26.92 ± 6.97	36.76 ± 3.63	39.96 ± 0.12	20.00 ± 0.00	20.00 ± 0.00	39.96 ± 0.13	11.39 ± 9.83	36.95 ± 3.94	20.24 ± 0.77
Task5-T11	36.48 ± 2.91	18.31 ± 4.28	25.57 ± 6.54	25.33 ± 7.79	31.83 ± 8.60	20.00 ± 0.00	20.00 ± 0.00	39.17 ± 1.01	10.62 ± 9.26	40.00 ± 0.00	26.18 ± 8.45
Task5-T12	40.00 ± 0.00	21.86 ± 2.99	35.18 ± 7.05	34.60 ± 6.27	36.00 ± 8.00	20.00 ± 0.00	20.00 ± 0.00	40.00 ± 0.00	7.44 ± 8.79	34.55 ± 8.33	27.58 ± 5.44
Task5-T13	40.00 ± 0.00	35.95 ± 6.93	39.26 ± 1.94	32.88 ± 5.75	40.00 ± 0.00	20.00 ± 0.00	20.00 ± 0.00	40.00 ± 0.00	12.91 ± 8.73	34.20 ± 8.87	39.49 ± 0.06
Task5-T14	39.69 ± 0.72	18.01 ± 5.47	18.41 ± 2.90	22.59 ± 5.94	35.73 ± 7.85	20.00 ± 0.00	20.00 ± 0.00	39.59 ± 0.98	18.21 ± 7.56	34.86 ± 7.63	24.59 ± 9.23
Average	58.93	37.51	40.48	50.23	53.32	57.51	20.00	58.24	10.80	52.08	61.74
Std	18.70	17.13	17.36	15.34	17.79	28.80	0.00	18.16	3.52	17.58	22.79

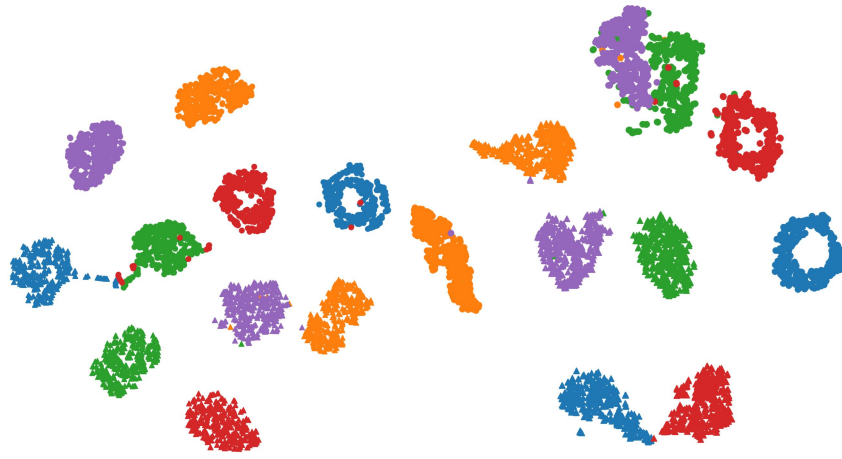
B3.2 Algorithmic Convergence Properties and Feature Space Visualizations

(a) Algorithmic Convergence Properties



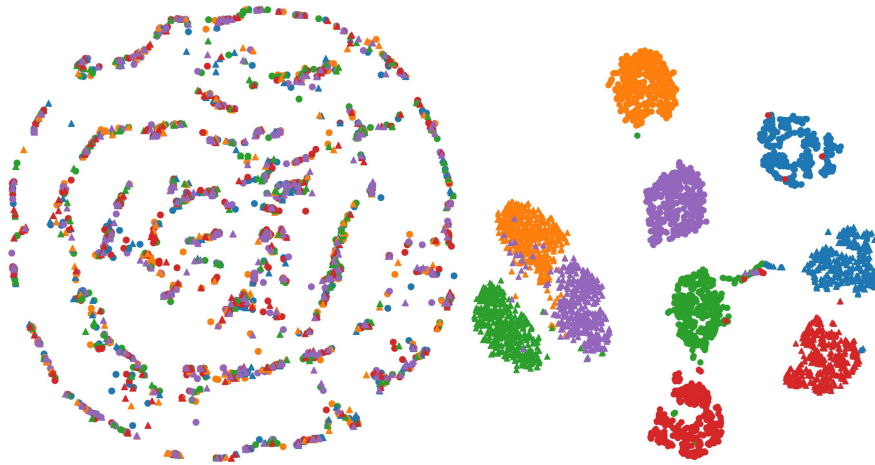
(b) Feature Space Visualizations





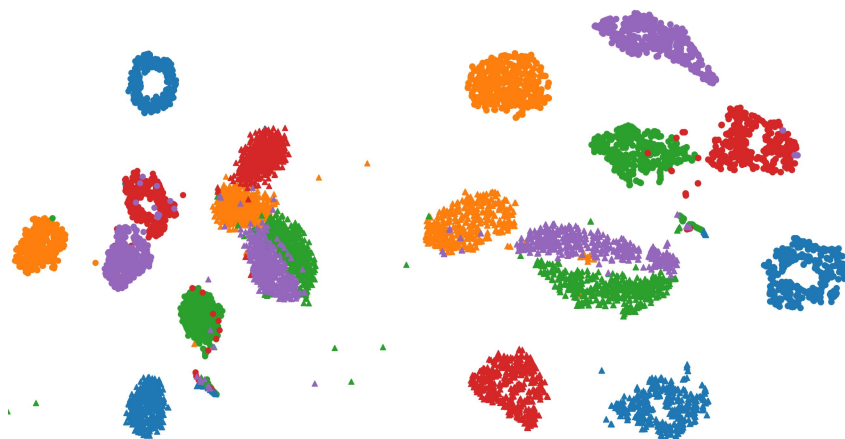
FADGN

FDDG



FedDGGA

FedIIR



FedGMA

FedGM



FedDGFD

B4 Impact of Model Heterogeneity

B4.1 Top-1 Classification Accuracy and Standard Deviations

(a) CWRU

Task	M1	M2	M3	M4
T1-A1	99.99±0.02	99.91±0.05	99.93±0.03	99.98±0.02
T1-A2	82.51±0.99	82.18±0.69	82.13±0.90	81.67±0.58
T1-A3	80.00±0.95	81.39±1.16	81.08±0.91	79.24±0.83
T1-A4	80.53±1.07	82.45±0.65	82.58±1.05	79.25±0.99
T1-A5	78.27±1.44	79.67±2.06	79.46±1.85	77.64±1.51
T1-A6	51.52±6.50	50.06±4.04	49.35±6.65	50.44±6.13
T1-A7	64.02±5.35	60.86±4.86	62.38±5.75	59.31±4.38
T1-A8	71.00±2.61	71.08±2.70	70.26±3.51	70.14±3.03
T1-A9	77.32±1.31	77.15±1.81	78.48±2.23	76.66±2.45
T1-A10	88.71±0.67	89.01±0.93	87.61±0.68	87.69±1.02
T1-A11	88.53±0.66	88.80±0.68	88.53±0.70	86.89±1.24
T1-A12	88.07±0.58	88.32±0.90	88.50±0.62	86.64±0.57
T1-A13	83.35±1.37	84.58±0.82	84.18±0.99	81.38±0.87
T1-A14	82.86±1.23	83.68±1.23	82.94±1.37	81.92±0.94
T1-A15	81.25±1.01	83.03±1.32	81.83±1.42	79.29±0.49
T1-A16	82.26±0.86	82.91±0.87	82.73±1.23	81.97±0.89
T1-B1	60.73±7.15	57.90±5.42	54.89±6.37	55.38±4.75
T1-B2	98.29±0.72	96.72±1.21	96.49±1.08	97.61±0.85
T1-B3	96.18±0.85	93.88±0.70	95.66±0.34	96.41±0.54
T1-B4	99.88±0.05	99.92±0.05	99.95±0.07	99.79±0.07
T2-A1	100.00±0.00	99.97±0.03	99.96±0.04	99.98±0.04
T2-A2	85.78±0.65	86.08±0.96	86.18±0.66	82.40±0.35
T2-A3	81.13±0.35	81.52±0.57	81.39±0.41	81.09±0.49
T2-A4	83.88±0.51	84.74±0.53	85.06±0.46	82.01±0.94
T2-A5	82.13±0.49	82.94±0.53	82.73±1.24	80.25±1.47
T2-A6	52.39±5.88	52.08±7.03	47.36±5.75	46.27±5.88
T2-A7	61.66±3.81	62.14±5.28	61.10±5.41	62.45±5.63
T2-A8	71.13±4.28	68.84±1.33	70.69±4.09	71.54±4.06
T2-A9	78.05±1.78	76.96±2.21	76.55±2.10	78.74±2.71
T2-A10	89.51±0.49	89.58±0.36	89.27±0.53	88.89±0.53
T2-A11	89.27±0.36	90.42±0.49	89.94±0.39	88.61±0.33
T2-A12	89.49±0.70	90.36±0.50	90.33±0.54	89.00±0.50
T2-A13	87.72±0.70	88.21±0.87	87.99±0.71	86.99±0.62
T2-A14	86.25±1.00	88.22±0.40	88.20±0.54	86.81±0.48
T2-A15	85.88±1.08	87.23±0.91	87.76±0.91	84.42±0.56
T2-A16	84.95±0.56	85.91±0.59	85.81±0.41	83.98±0.51
T2-B1	66.21±6.47	63.41±10.64	59.35±5.30	60.73±12.23
T2-B2	99.54±0.18	98.88±0.40	99.36±0.45	99.24±0.42
T2-B3	98.70±0.49	97.19±0.43	98.08±0.49	98.07±0.50

T2-B4	99.95±0.00	99.95±0.02	99.95±0.00	99.95±0.03
T3-A1	99.66±0.12	99.53±0.19	99.62±0.10	99.69±0.16
T3-A2	81.65±0.96	84.36±0.48	83.07±0.70	79.24±1.02
T3-A3	78.83±1.57	81.00±0.44	81.12±0.55	73.26±2.06
T3-A4	75.05±1.54	82.87±1.36	81.94±1.59	69.42±1.55
T3-A5	76.34±2.30	81.25±0.76	81.20±0.92	71.76±2.31
T3-A6	51.75±5.06	49.34±5.31	52.65±2.84	51.14±8.44
T3-A7	63.80±4.17	61.44±5.68	60.32±5.85	60.10±4.87
T3-A8	71.89±2.19	67.88±2.16	68.35±3.28	71.90±2.87
T3-A9	75.28±0.87	75.94±0.89	74.89±0.97	75.71±0.87
T3-A10	88.63±0.48	89.42±0.73	88.75±0.90	88.65±0.70
T3-A11	89.43±0.45	89.59±0.29	89.54±0.20	88.50±0.67
T3-A12	89.32±0.56	90.10±0.43	90.12±0.49	88.67±0.37
T3-A13	87.58±0.80	87.81±1.06	88.48±0.78	87.22±0.72
T3-A14	88.09±0.42	88.87±0.47	88.51±0.43	87.42±0.95
T3-A15	86.66±0.79	88.43±1.06	88.95±0.85	85.91±0.66
T3-A16	84.76±0.52	85.60±0.26	85.58±0.33	84.09±0.41
T3-B1	62.17±7.23	61.57±6.42	55.21±7.08	56.83±3.75
T3-B2	94.78±0.74	95.90±1.24	95.87±0.87	94.42±2.15
T3-B3	98.75±0.39	96.55±0.83	97.45±0.78	98.91±0.40
T3-B4	99.40±0.13	99.26±0.11	99.15±0.22	98.85±0.51
T4-A1	95.71±1.07	98.23±1.05	96.20±1.50	97.40±0.68
T4-A2	74.64±1.56	87.28±1.41	81.73±2.47	70.97±2.84
T4-A3	76.78±3.74	80.80±0.50	80.34±0.28	66.01±1.97
T4-A4	71.08±3.03	83.24±0.76	81.60±1.77	68.52±1.24
T4-A5	77.77±2.80	82.12±0.93	81.28±0.78	70.18±2.62
T4-A6	53.66±4.03	54.79±5.92	54.21±5.68	55.72±5.92
T4-A7	66.44±5.53	60.79±3.72	59.58±2.79	63.98±3.11
T4-A8	74.20±5.36	71.81±2.19	71.97±2.11	73.33±2.70
T4-A9	77.47±1.61	76.96±1.66	77.49±1.86	77.22±2.27
T4-A10	89.73±0.73	89.81±0.47	89.21±0.80	87.85±0.46
T4-A11	88.79±0.57	89.93±0.48	89.25±0.66	87.75±0.79
T4-A12	89.50±0.53	90.30±0.41	90.03±0.58	88.18±0.70
T4-A13	86.46±0.71	87.52±0.93	87.12±0.87	86.34±1.15
T4-A14	87.70±0.17	88.15±0.46	88.41±0.28	87.19±0.42
T4-A15	86.92±0.52	88.96±0.67	88.88±0.76	86.03±0.55
T4-A16	84.97±0.45	86.39±0.40	85.73±0.40	83.42±0.56
T4-B1	55.60±4.91	55.61±7.02	53.73±5.12	57.98±4.22
T4-B2	96.15±0.58	96.19±1.20	96.58±1.06	95.21±0.96
T4-B3	98.15±1.47	95.11±1.92	98.37±0.74	96.81±1.69
T4-B4	99.34±0.25	99.41±0.07	99.49±0.21	99.58±0.18
Average	82.30	82.85	82.47	80.90
Std	12.59	12.95	13.44	13.43

(b) PHM09

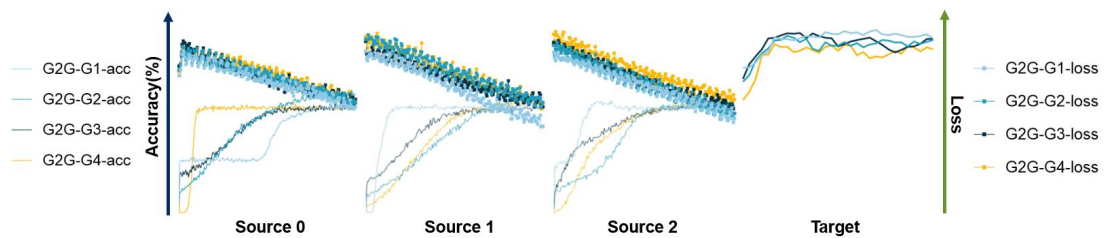
Task	M1	M2	M3	M4
T1-A1	61.62±0.70	63.03±1.07	61.33±0.59	61.65±0.61
T1-A2	58.54±1.53	56.38±1.48	57.86±2.00	56.32±1.21
T1-A3	52.99±1.16	52.80±0.64	54.08±1.33	51.22±1.03
T1-A4	56.66±0.51	54.08±0.44	56.44±0.85	54.24±0.24
T1-A5	42.53±13.06	48.43±19.28	41.29±13.19	36.13±11.65
T1-A6	37.55±4.37	41.59±4.64	37.62±3.53	38.51±7.27
T1-A7	79.28±9.43	80.62±6.04	74.99±5.54	78.34±4.94
T1-A8	80.63±4.09	77.32±2.56	77.36±7.05	80.05±4.74
T1-A9	54.73±5.49	59.29±4.81	54.30±3.97	54.33±4.37
T1-A10	59.60±1.43	57.96±2.44	60.03±2.54	57.79±3.34
T1-A11	50.14±2.19	50.01±2.08	50.32±3.10	51.46±2.48
T1-B1	33.32±0.03	33.32±0.03	33.32±0.03	33.33±0.00
T1-B2	37.97±0.58	39.80±0.75	37.85±0.86	40.67±0.50
T1-B3	51.51±1.53	54.26±1.41	51.54±1.56	55.30±0.48
T1-B4	56.74±1.75	59.69±0.95	57.50±1.09	61.57±0.94
Average	54.25	55.24	53.72	54.06
Std	13.12	12.18	12.24	13.13

(c) Cross-Machine

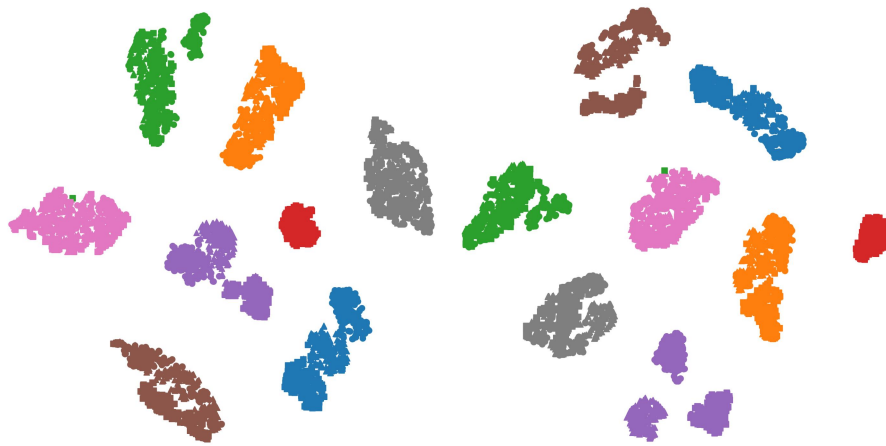
Task	M1	M2	M3	M4
T1-G1	32.08±0.75	34.82±1.58	30.24±1.68	32.49±2.20
T2-G1	63.47±3.56	64.59±1.69	57.06±4.87	58.42±3.32
T3-G1	44.40±3.30	51.29±4.49	54.36±1.87	49.22±1.99
T4-G1	38.44±3.39	40.47±2.61	41.00±3.07	39.28±2.33
T1-G2	35.39±3.31	37.36±3.56	36.65±5.37	34.34±3.96
T2-G2	65.05±3.20	71.64±5.28	61.50±3.23	70.35±5.38
T3-G2	28.61±3.45	31.42±1.83	28.22±3.35	31.07±2.57
T4-G2	39.90±2.30	35.50±2.39	37.63±2.59	36.54±2.28
Average	43.42	45.89	43.33	43.96
Std	12.85	14.07	11.85	13.23

B4.2 Algorithmic Convergence Properties and Feature Space Visualizations

(a) Algorithmic Convergence Properties



(b) Algorithmic Convergence Properties



M1

M2



M3

M4