Table 1. Parameters of buses in test system

Bus	p_i^{d} (MW)	q_i^{d} (MW)	$V_i^{\min}$ (p.u.)	$V_i^{\max}$ (p.u.)
1	0	0	1.05	1.05
2	0.2205	0.1125	0.9	1.1
3	0.35	0.1785	0.9	1.1
4	0.7	0.357	0.9	1.1
5	0.2205	0.1125	0.9	1.1
6	0.7	0.357	0.9	1.1
7	0.7	0.357	0.9	1.1
8	0.35	0.1785	0.9	1.1
9	0.35	0.1785	0.9	1.1
10	0.2205	0.1125	0.9	1.1
11	0.7	0.357	0.9	1.1
12	0.35	0.1785	0.9	1.1
13	0.2205	0.1125	0.9	1.1
14	0.35	0.1785	0.9	1.1
15	0.7	0.357	0.9	1.1

Table 2. Parameters of branches in test system

Index	From bus	To bus	Resistance (Ω)	Reactance (Ω)	Capacity (p.u.)
1	1	2	0.7766	0.7596	0.8
2	2	3	0.6716	0.6569	0.5
3	3	4	0.4827	0.4722	0.2
4	4	5	0.8744	0.5898	0.2
5	2	9	1.1554	0.7793	0.2
6	9	10	0.9680	0.6529	0.2
7	2	6	1.4677	0.9900	0.2
8	6	7	0.6245	0.4213	0.2
9	6	8	0.7182	0.4844	0.2
10	3	11	1.0305	0.6951	0.2
11	11	12	1.4052	0.9478	0.2
12	12	13	1.1554	0.7793	0.2
13	4	14	1.2803	0.8636	0.2
14	4	15	0.6870	0.4634	0.2

Table 3. Parameters of generators in test system

Bus	$p_i^{\mathrm{g,min}}$ (MW)	$p_i^{\mathrm{g,max}}$ (MW)	$q_i^{\mathrm{g,min}}$ (MVar)	$q_i^{\mathrm{g,max}}$ (MVar)	c_i^a ($/MWh)	c_i^b ($/MWh)
1	0	50	-30	30	0.04	28

Table 4. Parameters of O-D pairs in test system

Index	Origin	Destination	Basic traffic demand (p.u.)
1	1	3	20

Table 5. Parameters of transportation system in test system

Link	Origin	Destination	cap_a (p.u.)	t_a^0 (min)	l_a (km)
1	1	2	12	6	12
2	1	2	16	10	20
3	1	2	10	6.5	16
4	2	3	19.6	5	12
5	2	3	15.8	5.5	16

Table 6. Parameters of neural network

Hyperparameter	Value
Hidden layers	(50,50)
Activation function	ReLU
Optimizer	Adam
Learning rate	1e-3