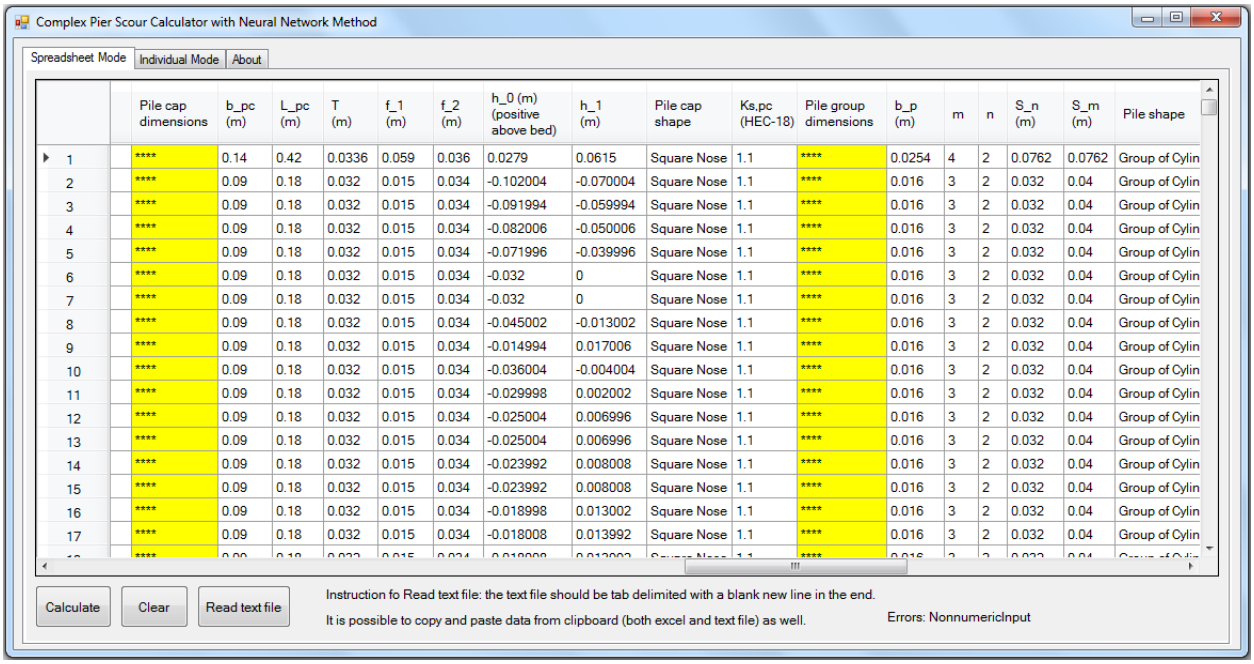
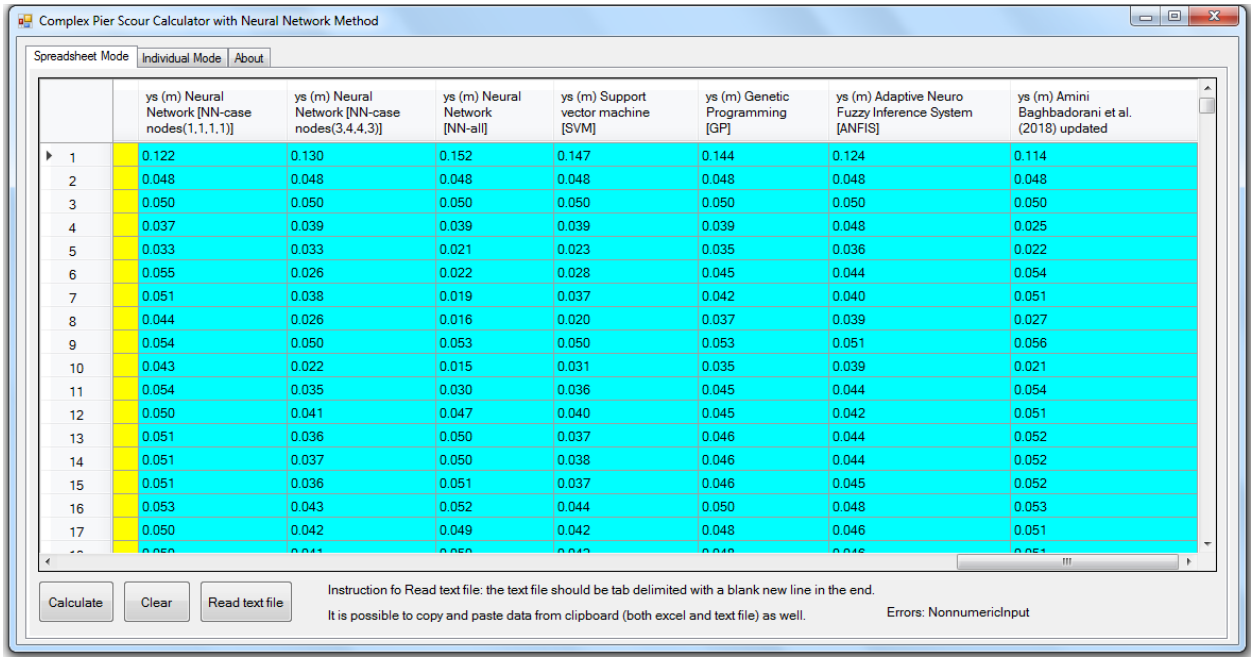
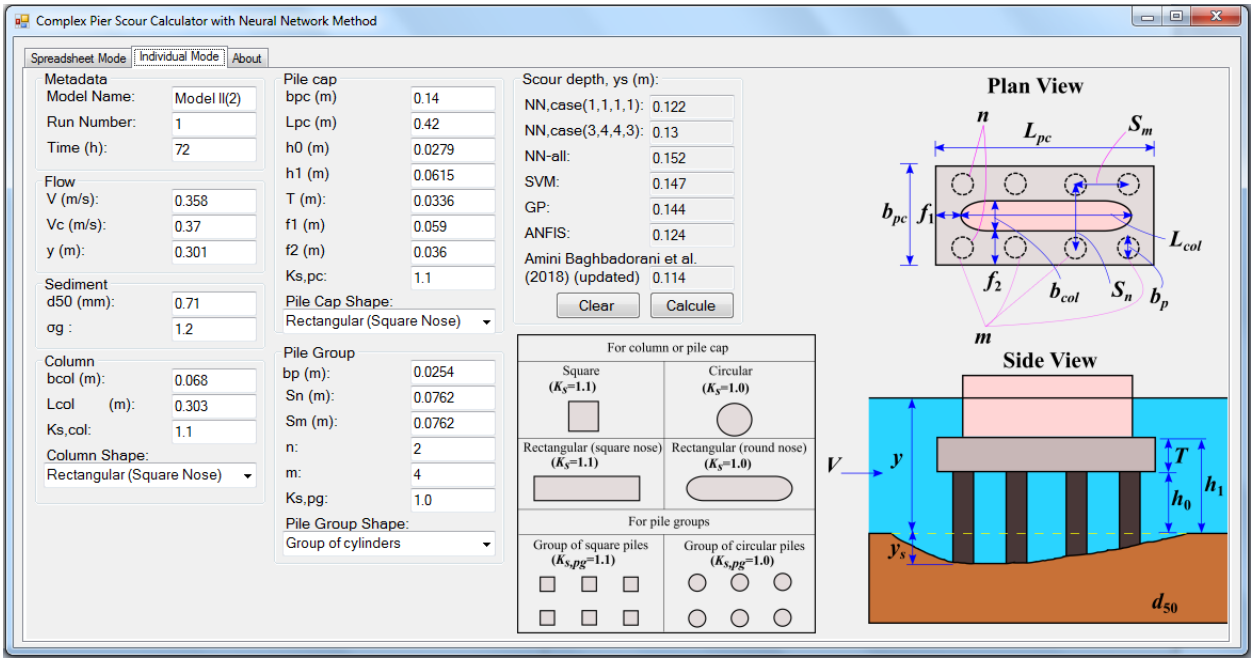
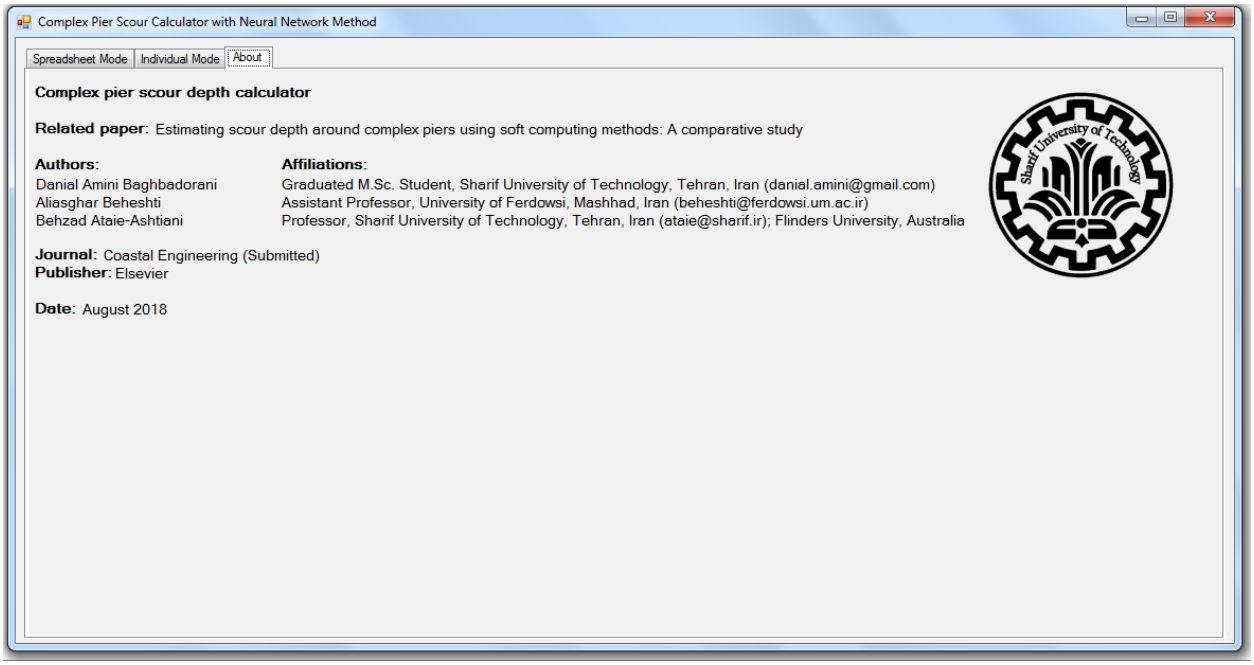


	Pile cap dimensions	b_pc (m)	L_pc (m)	T (m)	f_1 (m)	f_2 (m)	h_0 (m) (positive above bed)	h_1 (m)	Pile cap shape	Ks,pc (HEC-18)	Pile group dimensions	b_p (m)	m	n	S_n (m)	S_m (m)	Pile shape
1	****	0.14	0.42	0.0336	0.059	0.036	0.0279	0.0615	Square Nose	1.1	****	0.0254	4	2	0.0762	0.0762	Group of Cylin
2	****	0.09	0.18	0.032	0.015	0.034	-0.102004	-0.070004	Square Nose	1.1	****	0.016	3	2	0.032	0.04	Group of Cylin
3	****	0.09	0.18	0.032	0.015	0.034	-0.091994	-0.059994	Square Nose	1.1	****	0.016	3	2	0.032	0.04	Group of Cylin
4	****	0.09	0.18	0.032	0.015	0.034	-0.082006	-0.050006	Square Nose	1.1	****	0.016	3	2	0.032	0.04	Group of Cylin
5	****	0.09	0.18	0.032	0.015	0.034	-0.071996	-0.039996	Square Nose	1.1	****	0.016	3	2	0.032	0.04	Group of Cylin
6	****	0.09	0.18	0.032	0.015	0.034	-0.032	0	Square Nose	1.1	****	0.016	3	2	0.032	0.04	Group of Cylin
7	****	0.09	0.18	0.032	0.015	0.034	-0.032	0	Square Nose	1.1	****	0.016	3	2	0.032	0.04	Group of Cylin
8	****	0.09	0.18	0.032	0.015	0.034	-0.045002	-0.013002	Square Nose	1.1	****	0.016	3	2	0.032	0.04	Group of Cylin
9	****	0.09	0.18	0.032	0.015	0.034	-0.014994	0.017006	Square Nose	1.1	****	0.016	3	2	0.032	0.04	Group of Cylin
10	****	0.09	0.18	0.032	0.015	0.034	-0.036004	-0.004004	Square Nose	1.1	****	0.016	3	2	0.032	0.04	Group of Cylin
11	****	0.09	0.18	0.032	0.015	0.034	-0.029998	0.002002	Square Nose	1.1	****	0.016	3	2	0.032	0.04	Group of Cylin
12	****	0.09	0.18	0.032	0.015	0.034	-0.025004	0.006996	Square Nose	1.1	****	0.016	3	2	0.032	0.04	Group of Cylin
13	****	0.09	0.18	0.032	0.015	0.034	-0.025004	0.006996	Square Nose	1.1	****	0.016	3	2	0.032	0.04	Group of Cylin
14	****	0.09	0.18	0.032	0.015	0.034	-0.023992	0.008008	Square Nose	1.1	****	0.016	3	2	0.032	0.04	Group of Cylin
15	****	0.09	0.18	0.032	0.015	0.034	-0.023992	0.008008	Square Nose	1.1	****	0.016	3	2	0.032	0.04	Group of Cylin
16	****	0.09	0.18	0.032	0.015	0.034	-0.018998	0.013002	Square Nose	1.1	****	0.016	3	2	0.032	0.04	Group of Cylin
17	****	0.09	0.18	0.032	0.015	0.034	-0.018008	0.013992	Square Nose	1.1	****	0.016	3	2	0.032	0.04	Group of Cylin



	ys (m) Neural Network [NN-case nodes(1,1,1,1)]	ys (m) Neural Network [NN-case nodes(3,4,4,3)]	ys (m) Neural Network [NN-all]	ys (m) Support vector machine [SVM]	ys (m) Genetic Programming [GP]	ys (m) Adaptive Neuro Fuzzy Inference System [ANFIS]	ys (m) Amini Baghbadorani et al. (2018) updated
1	0.122	0.130	0.152	0.147	0.144	0.124	0.114
2	0.048	0.048	0.048	0.048	0.048	0.048	0.048
3	0.050	0.050	0.050	0.050	0.050	0.050	0.050
4	0.037	0.039	0.039	0.039	0.039	0.048	0.025
5	0.033	0.033	0.021	0.023	0.035	0.036	0.022
6	0.055	0.026	0.022	0.028	0.045	0.044	0.054
7	0.051	0.038	0.019	0.037	0.042	0.040	0.051
8	0.044	0.026	0.016	0.020	0.037	0.039	0.027
9	0.054	0.050	0.053	0.050	0.053	0.051	0.056
10	0.043	0.022	0.015	0.031	0.035	0.039	0.021
11	0.054	0.035	0.030	0.036	0.045	0.044	0.054
12	0.050	0.041	0.047	0.040	0.045	0.042	0.051
13	0.051	0.036	0.050	0.037	0.046	0.044	0.052
14	0.051	0.037	0.050	0.038	0.046	0.044	0.052
15	0.051	0.036	0.051	0.037	0.046	0.045	0.052
16	0.053	0.043	0.052	0.044	0.050	0.048	0.053
17	0.050	0.042	0.049	0.042	0.048	0.046	0.051


Complex Pier Scour Calculator with Neural Network Method
Spreadsheet Mode
Individual Mode
About
Metadata
Model Name: Model II(2)
Run Number: 1
Time (h): 72
Flow
V (m/s): 0.358
Vc (m/s): 0.37
y (m): 0.301
Sediment
d50 (mm): 0.71
σg : 1.2
Column
bcol (m): 0.068
Lcol (m): 0.303
Ks,col: 1.1
Column Shape:
Rectangular (Square Nose)
Pile cap
bpc (m) 0.14
Lpc (m) 0.42
h0 (m) 0.0279
h1 (m) 0.0615
T (m): 0.0336
f1 (m) 0.059
f2 (m) 0.036
Ks,pc: 1.1
Pile Cap Shape:
Rectangular (Square Nose)
Pile Group
bp (m): 0.0254
Sn (m): 0.0762
Sm (m): 0.0762
n: 2
m: 4
Ks,pg: 1.0
Pile Group Shape:
Group of cylinders
Scour depth, ys (m):
NN,case(1,1,1,1): 0.122
NN,case(3,4,4,3): 0.13
NN-all: 0.152
SVM: 0.147
GP: 0.144
ANFIS: 0.124
Amini Baghbadorani et al. (2018) (updated) 0.114
Clear
Calcule
For column or pile cap
Square (K_s=1.1)
Circular (K_s=1.0)
Rectangular (square nose) (K_s=1.1)
Rectangular (round nose) (K_s=1.0)
For pile groups
Group of square piles ($K_{s,pg}$=1.1)
Group of circular piles ($K_{s,pg}$=1.0)
Plan View
Side View


Complex Pier Scour Calculator with Neural Network Method
Spreadsheet Mode
Individual Mode
About
Complex pier scour depth calculator
Related paper: Estimating scour depth around complex piers using soft computing methods: A comparative study
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Journal: Coastal Engineering (Submitted)
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