

Estimación de Datos Faltantes con uso de Inteligencia Artificial **PINART**

(Precipitación - Inteligencia - Artificial)

UNIVERSIDAD SAN MARTIN DE PORRES

HIDROLOGÍA

Docente:

FERNANDO PAZ ZAGACETA

Integrantes:

MIRZA ELIZABETH APAZA VALDEZ

JHEAN PAUL ARIZACA SALDIVAR

JESUS SIMON BECERRA MIRANDA

JOAN MANUEL BEJAR DINOS

EDWIN HEBER BOZA SALAS

ANDRES AVELINO CACERES CHICLLASTO

ROGGER CELSO CACYA OVIEDO

RESULTADOS EXPORTADOS DE PINART

Est1	Est2	Est3	Est4	Est5	Estx	Estx_Completed
0.0	0.0	4.8	0.0	2.7	0.0 0.08	052356541156769
0.0	0.0	3.5	0.0	6.4	0.0 0.05	750200152397156
1.2	1.2	0.4	0.0	0.0	0.0 -0.00	8986204862594604
1.1	1.1	2.5	0.0	0.2	0.0 0.05	90946301817894
0.0	0.0	0.0	0.0	0.0	0.0 -0.10	423599183559418
0.0	0.0	0.0	0.0	0.0	2.2 -0.10	423599183559418
0.0	0.0	2.3	0.0	0.2	3.2 -0.02	2373981773853302
0.0	0.0	2.2	0.0	0.0	4.0 -0.02	7099579572677612
9.9	9.9	8.3	0.0	3.7	4.2 0.87	94434070587158

7.2	7.2	5.4	3.1	6.3	3.3 0.5220218896865845
3.0	3.0	2.4	0.0	2.7	6.0 0.19943714141845703
0.0	0.0	0.3	0.0	0.0	4.8 -0.09371735900640488
0.0	0.0	0.0	0.0	0.0	13.3 -0.10423599183559418
0.0	0.0	8.8	0.0	0.0	5.4 0.2043095827102661
0.0	0.0	1.2	3.9	0.4	4.7 -0.17148664593696594
6.2	6.2	5.8	0.0	0.0	0.0 0.518785834312439
1.1	1.1	11.9	0.0	0.0	0.0 0.3874579668045044
5.2	5.2	1.9	0.0	0.0	0.0 0.31435662508010864
0.0	0.0	0.3	0.0	0.0	3.8 -0.09371735900640488
0.0	0.0	0.0	0.0	1.0	3.0 -0.09813893586397171
0.0	0.0	8.7	0.0	0.0	0.0 0.20080339908599854
0.0	0.0	6.1	0.0	4.6	2.6 0.1376885175704956
0.0	0.0	4.9	0.0	0.1	3.1 0.0681774914264679
0.0	0.0	0.0	0.0	0.1	4.2 -0.10362626612186432
0.0	0.0	0.0	0.0	0.0	2.4 -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	6.7 -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	0.0 -0.10423599183559418
0.0	0.0	0.0	0.0	0.4	2.7 -0.10179717093706131
0.0	0.0	6.0	0.0	0.0	5.4 0.10613593459129333
0.9	0.9	2.7	0.0	2.4	4.3 0.06598301231861115
4.2	4.2	0.0	0.0	0.0	6.3 0.18005137145519257
0.0	0.0	0.0	0.0	0.0	10.0 -0.10423596948385239
0.0	0.0	0.0	0.0	0.1	4.4 -0.10362626612186432
0.0	0.0	0.0	3.5	0.0	3.9 -0.20453691482543945
0.0	0.0	2.8	2.4	0.4	8.6 -0.07240132987499237

6.8	6.8	6.7	6.0	4.5	2.9 0.44	64462399482727
5.8	5.8	7.5	3.0	5.4	3.8 0.49	826791882514954
2.6	2.6	12.0	1.8	0.9	0.0 0.44	63993012905121
0.0	0.0	5.8	0.5	0.0	0.0 0.08	479487895965576
0.0	0.0	9.9	11.0	18.9	0.0 0.04	288005828857422
0.0	0.0	3.1	4.0	7.4	0.0 -0.06	505540013313293
0.0	0.0	0.6	6.7	10.0	0.0 -0.21	42331600189209
0.0	0.0	1.0	11.2	6.9	2.5 -0.34	806740283966064
0.0	0.0	8.2	1.2	0.0	2.8 0.14	888352155685425
0.0	0.0	4.2	0.6	4.1	5.9 0.05	0827756524086
0.0	0.0	2.3	1.4	1.2	4.7 -0.05	6397322565317154
4.2	4.2	1.5	0.0	12.4	5.0 0.30	82476854324341
15.2	15.2	12.6	1.3	9.1	1.9 1.38	46228122711182
1.2	1.2	3.4	1.5	6.5	3.8 0.09	284433722496033
9.2	9.2	1.2	2.9	5.3	2.4 0.50	9770929813385
1.1	1.1	9.5	0.5	1.6	2.7 0.29	873573780059814
0.9	0.9	13.8	0.7	6.2	8.0 0.45	827966928482056
11.0	11.0	17.5	4.6	7.2	0.0 1.16	59854650497437
2.5	2.5	0.7	0.9	7.5	0.0 0.10	946211218833923
6.2	6.2	0.9	0.0	0.4	0.0 0.34	94208753108978
0.0	0.0	0.2	1.0	1.3	0.0 -0.11	795485764741898
0.0	0.0	0.0	8.8	3.6	9.5 -0.33	447176218032837
0.0	0.0	0.3	1.4	7.7	0.0 -0.08	689063787460327
0.0	0.0	1.2	0.9	5.8	0.0 -0.05	2590399980545044
0.0	0.0	5.2	0.0	2.5	0.0 0.09	332894533872604
0.0	0.0	7.9	6.7	2.4	0.0 -0.00	4618003964424133

0.1	0.1	2.9	3.6	6.3	0.0 -0.0605427622795105
1.1	1.1	2.8	3.8	5.8	0.0-0.005141541361808777
1.2	1.2	5.5	7.7	10.6	0.0 0.013796240091323853
3.2	3.2	5.5	13.3	9.3	0.0 -0.01923614740371704
3.1	3.1	3.8	0.0	1.3	7.1 0.2467568814754486
0.0	0.0	9.0	0.4	22.4	3.8 0.3364327549934387
4.5	4.5	3.3	1.6	3.4	9.4 0.29094022512435913
6.9	6.9	6.1	4.2	10.0	2.2 0.5172951221466064
2.6	2.6	5.9	2.5	14.9	3.7 0.2978193163871765
5.5	5.5	4.7	1.6	4.2	3.3 0.4125921130180359
1.1	1.1	12.7	1.5	9.2	2.9 0.42861413955688477
2.2	2.2	24.7	0.7	0.0	4.2 0.8906475305557251
4.4	4.4	5.6	1.0	0.3	2.6 0.36310774087905884
5.3	5.3	15.0	7.6	1.6	10.3 0.5723963975906372
6.8	6.8	13.1	11.5	13.9	2.8 0.5705393552780151
8.4	8.4	0.4	0.4	3.0	0.0 0.48519179224967957
2.2	2.2	1.1	1.7	3.0	0.0 0.052818119525909424
3.2	3.2	1.6	1.1	0.0	0.0 0.13693997263908386
5.2	5.2	1.5	4.8	2.7	0.0 0.17923825979232788
3.4	3.4	0.0	0.5	1.9	1.9 0.12315703183412552
1.1	1.1	3.6	0.0	2.8	2.0 0.11351512372493744
0.0	0.0	0.0	0.0	0.0	4.1 -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	0.0 -0.10423599183559418
0.0	0.0	0.6	0.0	0.0	0.0 -0.08319880068302155
0.0	0.0	0.0	0.0	0.0	7.0 -0.10423599183559418
0.0	0.0	2.7	0.0	0.0	2.7 -0.00956861674785614

0.0	0.0	0.0	0.0	0.0	2.5 -0.10	423599183559418
0.0	0.0	0.0	0.0	0.0	4.1 -0.10	423599183559418
0.0	0.0	0.0	0.0	0.0	2.8 -0.10	423599183559418
0.0	0.0	0.5	0.0	1.3	0.0 -0.07	877882570028305
1.2	1.2	14.0	0.0	5.7	0.0 0.50	26099681854248
1.1	1.1	1.2	0.0	2.9	5.0 0.02	997608482837677
3.2	3.2	6.0	0.0	0.0	6.3 0.32	273587584495544
7.2	7.2	7.5	2.5	7.8	2.8 0.62	19921112060547
0.0	0.0	0.0	0.0	0.0	3.2 -0.10	423596948385239
0.0	0.0	0.1	0.0	0.0	1.8 -0.10	072977095842361
0.0	0.0	4.8	0.0	0.0	4.0 0.06	406161189079285
0.0	0.0	0.1	1.6	0.0	4.6 -0.14	658163487911224
0.0	0.0	0.0	0.0	0.0	0.0 -0.10	423599183559418
0.0	0.0	0.0	0.0	0.0	0.0 -0.10	423599183559418
0.0	0.0	0.0	0.0	0.0	0.0 -0.10	423599183559418
0.0	0.0	0.0	0.0	3.6	0.0 -0.08	228668570518494
0.0	0.0	0.0	0.0	0.0	0.0 -0.10	423599183559418
0.0	0.0	0.0	0.0	0.0	0.0 -0.10	423599183559418
0.0	0.0	0.0	0.0	0.0	0.0 -0.10	423599183559418
0.0	0.0	0.0	0.0	0.0	2.4 -0.10	423599183559418
0.0	0.0	0.0	1.0	0.0	3.5 -0.13	2893368601799
0.0	0.0	0.4	0.0	0.0	4.8 -0.09	02111828327179
0.0	0.0	0.0	0.0	0.0	2.3 -0.10	423599183559418
0.0	0.0	0.0	0.0	0.0	1.7 -0.10	423599183559418
0.0	0.0	0.0	0.0	0.0	0.0 -0.10	423599183559418
0.0	0.0	2.9	0.0	0.3	0.0-0.000	7270574569702148

0.0	0.0	0.0	0.0	0.0	0.0 -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	0.0 -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	2.0 -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	2.1 -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	3.8 -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	1.3 -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	6.2 -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	nan -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	nan -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	nan -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	nan -0.10423599183559418
0.0	0.0	3.5	0.0	0.2	nan 0.019700437784194946
0.0	0.0	0.0	0.0	0.0	nan -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	nan -0.10423596948385239
0.0	0.0	0.0	0.0	0.0	nan -0.10423596948385239
0.0	0.0	0.2	0.0	0.0	nan -0.09722357243299484
0.0	0.0	0.0	0.0	0.0	nan -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	nan -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	nan -0.10423599183559418
7.2	7.2	3.3	0.0	0.0	nan 0.4988183379173279
0.0	0.0	0.2	0.0	0.0	nan -0.09722357243299484
1.2	1.2	7.3	0.0	2.8	nan 0.25001323223114014
3.2	3.2	0.1	0.6	0.0	nan 0.0986756756901741
3.2	3.2	6.5	0.0	1.2	nan 0.34758326411247253
1.6	1.6	4.1	0.0	0.0	nan 0.14781810343265533
6.7	6.7	2.0	2.6	5.3	nan 0.37719905376434326

0.0	0.0	0.5	0.0	0.0	nan -0.08670497685670853
0.0	0.0	0.0	0.0	0.0	nan -0.10423599183559418
0.0	0.0	0.6	0.0	0.0	nan -0.08319880068302155
0.0	0.0	0.0	0.0	0.0	nan -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	nan -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	nan -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	nan -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	nan -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	nan -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	nan -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	nan -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	nan -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	0.0 -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	0.0 -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	0.0 -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	0.0 -0.10423599183559418
2.2	2.2	0.3	0.0	0.0	0.0 0.055195048451423645
1.2	1.2	0.2	0.0	0.0	0.0 -0.01599861867725849
0.0	0.0	0.3	0.0	0.0	0.0 -0.09371735900640488
0.0	0.0	0.0	0.0	0.0	0.0 -0.10423596948385239
0.0	0.0	0.0	0.0	0.0	0.0 -0.10423596948385239
0.0	0.0	0.0	0.0	0.0	0.0 -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	0.0 -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	0.0 -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	0.0 -0.10423599183559418

[illegible]

[illegible]

[illegible]

[illegible]

0.0	0.0	0.0	0.0	0.0	0.0 -0.10423599183559418
0.0	0.0	0.8	0.0	0.0	0.0 -0.07618637382984161
0.1	0.1	3.7	0.0	0.0	0.0 0.03226208686828613
0.0	0.0	0.2	0.0	0.0	0.0 -0.09722357243299484
0.0	0.0	0.0	0.0	0.0	0.0 -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	0.0 -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	0.0 -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	0.0 -0.10423599183559418
3.1	3.1	0.0	0.0	0.0	0.0 0.1055951714515686
0.0	0.0	0.8	0.0	0.0	1.0 -0.07618637382984161
0.0	0.0	0.3	0.0	0.0	0.0 -0.09371735900640488
0.0	0.0	0.1	0.0	0.0	0.0 -0.10072977095842361
0.0	0.0	0.1	0.0	0.0	0.0 -0.10072977095842361
0.0	0.0	0.0	0.0	0.0	0.0 -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	0.0 -0.10423599183559418
0.2	0.2	1.8	0.0	0.0	0.0-0.027586914598941803
0.0	0.0	3.7	0.0	0.0	0.0 0.025493398308753967
0.0	0.0	0.0	0.0	0.0	0.0 -0.10423596948385239
0.0	0.0	1.3	0.0	0.0	0.0 -0.05865534394979477
0.0	0.0	1.9	0.0	0.0	0.0-0.037618204951286316
0.0	0.0	3.1	0.0	4.6	0.0 0.032502561807632446
0.0	0.0	3.1	0.2	0.1	0.0-0.0006655901670455933
0.0	0.0	0.0	0.0	0.4	0.0 -0.10179717093706131
0.0	0.0	0.1	0.0	1.4	0.0 -0.09219393879175186
0.0	0.0	0.0	0.0	0.1	3.6 -0.10362626612186432
0.0	0.0	0.0	0.0	0.0	3.3 -0.10423599183559418

6.2	6.2	1.5	0.0	0.0	4.3 0.3680192828178406
3.7	3.7	3.9	0.0	0.0	2.5 0.28294944763183594
0.0	0.0	1.5	0.0	2.9	2.1 -0.03396160900592804
1.4	1.4	1.1	2.3	6.0	0.0-0.0002351999282836914
1.1	1.1	2.3	0.0	9.4	0.0 0.10817492008209229
0.2	0.2	3.1	0.0	0.5	0.0 0.021042242646217346
0.0	0.0	0.5	0.0	0.0	2.8 -0.08670497685670853
0.0	0.0	0.0	0.0	0.0	3.7 -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	8.1 -0.10423599183559418
0.0	0.0	0.0	5.0	6.1	0.0 -0.21033114194869995
0.0	0.0	1.3	3.9	3.6	0.0 -0.148469939827919
0.0	0.0	11.2	4.3	7.1	1.1 0.20852038264274597
0.0	0.0	4.0	0.0	1.9	4.5 0.04759635031223297
0.0	0.0	0.1	0.0	0.0	3.1 -0.10072977095842361
0.0	0.0	0.4	0.0	0.0	2.4 -0.0902111828327179
0.0	0.0	1.3	0.0	0.2	2.0 -0.05743596702814102
0.0	0.0	0.3	0.0	0.0	3.8 -0.09371735900640488
0.0	0.0	0.0	0.0	0.0	8.9 -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	0.0 -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	0.0 -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	0.0 -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	0.0 -0.10423599183559418
0.0	0.0	0.1	0.0	0.0	0.0 -0.10072977095842361
0.0	0.0	0.1	0.0	0.0	0.0 -0.10072977840900421
0.0	0.0	0.0	0.0	0.0	10.8-0.10423596948385239
0.0	0.0	1.8	0.0	0.4	3.7 -0.03868558257818222

0.0	0.0	0.0	0.0	0.0	10.6 -0.10	423599183559418
0.0	0.0	0.0	4.0	0.0	4.2 -0.21	886560320854187
0.0	0.0	2.5	0.0	6.1	5.0 0.02	0610913634300232
1.7	1.7	3.1	1.0	3.9	2.2 0.11	464594304561615
0.0	0.0	1.8	0.0	0.0	1.9 -0.04	1124388575553894
0.0	0.0	0.0	0.0	0.0	4.8 -0.10	423599183559418
0.0	0.0	0.0	0.0	0.0	6.2 -0.10	423599183559418
0.0	0.0	1.9	0.0	0.0	0.0 -0.03	7618204951286316
0.0	0.0	0.3	0.0	0.0	0.0 -0.09	371735900640488
3.0	3.0	0.7	0.4	0.0	0.0 0.11	190684884786606
2.3	2.3	3.3	0.0	0.2	4.5 0.16	836917400360107
0.4	0.4	1.8	0.0	3.4	8.6 0.00	6680488586425781
1.1	1.1	1.7	0.0	2.8	6.3 0.04	6897292137145996
3.9	3.9	5.5	0.0	1.4	0.0 0.36	11219525337219
2.2	2.2	2.0	0.0	0.2	3.7 0.11	601985991001129
1.2	1.2	3.4	6.2	6.9	2.2 -0.03	9406657218933105
7.2	7.2	11.9	11.8	5.9	5.3 0.49	81665015220642
10.4	10.4	10.2	1.0	4.9	0.0 0.95	8564043045044
2.9	2.9	7.1	1.2	2.6	0.0 0.32	246118783950806
0.2	0.2	3.2	0.0	1.8	0.0 0.03	247455880045891
4.4	4.4	5.6	0.8	2.3	0.0 0.38	10333013534546
4.5	4.5	3.6	0.6	3.3	0.0 0.32	950660586357117
4.6	4.6	6.3	3.0	7.4	0.0 0.38	71626853942871
2.4	2.4	4.1	0.0	0.8	0.0 0.20	68457305431366
0.0	0.0	15.1	0.0	0.0	0.0 0.42	520010471343994
0.0	0.0	1.1	0.0	0.0	0.0 -0.06	566779315471649

0.0	0.0	5.6	0.0	0.0	0.0 0.09211117029190063
4.7	4.7	1.3	0.0	4.0	0.0 0.2838638424873352
0.0	0.0	2.3	0.0	2.0	0.0 -0.011399324983358383
0.0	0.0	0.0	0.0	0.1	0.0 -0.10362628102302551
0.0	0.0	0.0	0.0	0.0	0.0 -0.10423596948385239
0.0	0.0	0.0	0.0	0.5	6.3 -0.10118745267391205
0.0	0.0	0.0	0.0	0.0	3.3 -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	2.4 -0.10423599183559418
0.0	0.0	0.0	0.0	0.0	3.2 -0.10423599183559418
0.0	0.0	0.2	0.0	0.0	4.5 -0.09722357243299484
0.0	0.0	3.5	0.0	0.0	0.0 0.01848103106021881
2.5	2.5	2.0	0.0	0.0	6.0 0.13510671257972717
0.0	0.0	0.0	0.0	0.0	6.3 -0.10423599183559418
0.0	0.0	0.6	0.0	0.7	3.8 -0.07893085479736328
0.0	0.0	0.1	0.0	0.0	0.0 -0.10072977095842361
0.0	0.0	0.3	0.0	0.0	0.0 -0.09371735900640488
0.0	0.0	0.0	0.0	0.0	0.0 -0.10423599183559418
0.0	0.0	0.0	0.0	0.1	0.0 -0.10362628102302551

GRÁFICA PINART

