



Follower Model Results

| Date: Jan.28-Feb.11

1. Overview

Summarize the progress of the week. Enter @ to insert relevant documents if needed.

Item	Progress	Difficulties & Question
Data preprocess	We deal with undefined followers and null value using the first previous valid data as we discussed	We only used data that contains more than 300 days record, and will only be able to accept data like this. Is this ok?
Baseline Model	Decide to use linear regression model.	This is our mentor's suggestion since we can't find any useful references online.
Basic Model	We used AutoTS models, which can automatically test multiple forecasting models (e.g., ARIMA, Prophet, LSTM, ETS, etc.).	...
Enhanced Model	We added more features in the model, including engagement_per_post, sum of	

	likes and comments, means of reach and impressions	
ML Approach	The results are really bad. Not suitable for our task.	

2. Result

The MAE and MSE values for LR are generally higher than those for AutoTS across most profiles, suggesting that AutoTS may have better predictive performance.

Date: Feb.27

1. Result

1.1 Monthly

1.1.1 More than 365 records

Profile ID	MAE_AutoTS_365	MSE_AutoTS_365
02170cc6ad8d4839d4b103387977def165bea9631fd28de5379a59339bc6b942	1221	1490841
0225ee6b651c06a7b02cf995cb466c63dc02b861b04fc5294457e5cd17c67267	17930	321484900
077e1d3b46ac249ee51fdb604c82dfbdf350f46a48fe2ca20ea3bc11614cec64	187200	35043840000
0c997f518f0769c39126acb6538cae0f9c945346abecc99705370a49c377467e	646770	418311432900
100b80f30629b949b2b3015e944f81dbdee219520fecab758468d3e0c433e8f1	904.5	818125.1666666670
10bcfb1593e1c348b04c1aa2aeb4d1add22a9ffe71ba7340e9649574b01b1dbe	6816	46457856
13ee2c9dc0adbe540b53810f8dd772aabba4f8db2fa634bcdfa14b7b4822158a	49329	2433350241
141e50a5f4ab5c2d1898ab87aa2e53498bf4ceeffb3348fa386ce6cd1626ba7e	3064	9388096
226f63965190887c5bebae105d865de652d7141ce1927db9e10609a193d04901	2332	5438224
241b583fb8fe8bb759ef5ad6159ac45a0c78470e7718ae5a864a59b46705431a	50712.5	2916384480.8333300
2ad2fbc6a393c64ed2acfaeb4ef79119a6c1235424dd79ff8872391041db20e6	425	180625
2b510f268099e381772458132e7d36345020e06b0fdffb447f551b1692dfd2af	3496	12222016
2d7370c6b41cc46c9bb51ee4173701e9f62a09be4e90a49043f1b8e233bae8f9	157926	24940621476
2ff820539864726fb7a462376b05351622f465b400e19e9ddfcf73e84998f1bc	1273	1620529
34a8632e209e2ffd5d1988c2d3b834d10002e0163b299eefddb31585801a072d	5009	25090081
38ba9b43f8f4a85d3eda765dd78664aee6a82316b8d20a66bfb2a049696e277d	11718	137311524
45ed453b59c12e5fa9393c6709f0ff293d869e3c7e6e4240609c5921ace31d3a	65149	4244392201
4afed26c712ad555df1035470cafccd75938065c60350019d1fed0ac6476da12	506310.6666666670	256352349036.66700
4b5dd50d244cbbcb5326772c1898eb102d98ba99b433fb34a16544eb3c3ad50b7	15179	230402041
4bd9b3a20777e213f9de29c87e9a1a83f37b8c0fb6e170f71bb7de46a2e5f80e	12243	149891049
4ddd36b860bb63461ba4f678ba5e2e43eec7946bcde1ee9d0603fd4b1ace666c	783	613089
4dfc58858af02c3ac23049be6a6bbb4c73707c3ee8d5baf9f14a251852540731	62626.333333333300	3933138419.3333300

1.1.2 300-365

Profile	MAE_AutoTS_300	MSE_AutoTS_300
0385a1893cfc3d31caf2f904717039ed5bd40152626c32c9c735c7e8de0ea05c	19516	380874256
03909ba84c6faf1d285deebf0b9be9d557d6b8f6fa358b9beb8fa8018bd9a4c0	1828001	3341587656001
0a7eb9fd8ffc224e541cb120178dc83f1fd31d73b5cc082eba372f2bf948ef9d	20385	415548225
1ee398aee66750f89e8ae811739ccb99734381991d2fc3f5fda10d0e573af499	378	142884
1f64d05fc9bbce293c141cca321106fafa26076d0737707a3826e037116ad24d	4449	19793601
23e9b065f30942d65992fc2290f02e57d8eb137ae88a6d3d11a0f6f9cf9771a4	153429	23540458041
2daf9e6afde6b0ec7702156af97259f6a60a863ba55beb75b29cfef84efe74a8	1199	1437974.67
2f48f05599adbdb12ab5e37a09c3fbb9dca8e522917243a4cdc17b8568ef2120	240272	57730633984
313a2aaac559a9ea77b74216c4678f8b03aa0e2690975beedbb0cc28d7fcf8df	14621	213773641
31d8cb29a0d5a8840ef88e3406c2640f8aa5d1c873c3e8869bf534890e6dded0	384696	147991012416
34a8008fd2121d63d7613d719f4a3c418d4ef236fff35565d69d5b09f53187ef	10467	109558089
387e108ca4420bb294d40f65616ff6191e82a9dfd57157cdf6c1d0ce7cba87a4	28432	808378624
391787fef98f35003d0c6ed23ae86d37251c775bf56b0219d1fad55ce4b00515	2869	8231161
3eb097badc6104244900d949b87208b7a5f0c7bcd1b14132002c32b592573722	836305	699406053025
42919e2f9c5336b2dffa27930b0308748f089cb823234831fb20603760681351	8029	64464841
42c53d989a9b958f6d1965a3590109cd220e38aadd45b8fab76ec55bf9e62b87	8365	69973225
44c9c63f103ca2f90cbbb1594b27ad5a993b15428c8872e602c7375645b9441c	8328	69355584
512ad50c374357e81d9a271fe6386aaadce6baf13ccc38e3acd704c5ce9bbf8e	225	50625
53a55db4ac7cb6480ee5b3930ff6a65fb05f9f4e7bf48add9c4bc9e6209e6080	881	776161
56add85f9c254cbc9e1491110f104834bbc29345791a4d536058dcfb8812140b	431517	186206921289
58bb3eca6e902bf36ffb9c58a4d304f346713d26d12bfdb39a904260f0ebd952	53635	2876713225
5ee393ef2df06b2f3df9a8c7770ce1e206765eb561806ee7af2a97ed55ce9603	2235410	4997057868100

1.1.3 50-299

Profile	MAE_AutoTS_50	MSE_AutoTS_50
02af12a05e0bc918bf3d11c82f0bdd9c8eb2d468023d4576c90e248c402d406d	0	0
06653e0b982552df39bac305d78b9aa5610c08d08a51c8b10ca95871aa5de811	1338.5	3590005.833333330
07f06c4ea2484850d6b362de8264c8164df08dce850056eddd480e6152470c5a	0	0
0a9f45c0c7b752bcef98c7d72e24461a39a89ebdcc6c5e67cb415208a0e388ea	30223.66666666670	1115421675.333330
10c7d077f54ccce4e526ffb0a0e182a546bfe4cad4a06140945d721cdb1bbb96	0	0
12834d560e14aefe54636209b8552fc6fb50cb7c608d3cde5051031604d7612d	0	0
1851922e33d7d9ec1bd672238c5cb93762523ee35c5e92077ec7f2dd7a65c8b9	0	0
1bdebb0f96d1039af76952ec728cc9dac2069b6d63eab4bead87c49e7fe94488	0	0
1ef301ef2d69f9c6b4b3122849116dfd6d67dd53cb51d7fdd9f2b07388a8996c	0	0
202acf4db2944a1246d08a547b82a7493cbaedb057c746bb222a5b5651bd8cdd	0	0
23c5ca0c05ad207569dd49bd097d4b51d141ecf3283ee0969526e417769212b9	0	0
273e9de5c18b316e54cb789efb3c19b2ab1671dd6604e0929f78086b78c68a50	17.66666666666670	337.333333333330
27ed86c2b353c7aaea32156ffef85ece664f183168f6be302f75bcb20b10f429	0	0
2b4b5ed431e33f3de0311ebe950b7462b874d16a1a5252f2418a02dd71bbe010	0	0
3b3dff3a5f461ec58079ba44932b35776c9bc92ea1801ad7d5fa2b5ff4ff173e	0	0
3d3bafed1fcd3e216617cfbc5990c6f0b44951cda6ebe5292138403271592aea	0	0
414477328dec28eb2b6251ad8528d7524a82011a32b69cfdb1e61f9b438d2d7	21679.3333333330	469994704
436b0a1781e515486572123057c5c0daf6a0ad4e05df58496dd962dce73e8054	0	0
4d16487cd3a76231ab9c2dc1fd8752bb5ac3ee69a24dde02a004a06834b4d2e7	0	0

1.1.4 90-299

Profile	MAE_AutoTS_50	MSE_AutoTS_50
00ed31934cb3ec073edcc77b23fd93bada5ee0047ddd31b60ce3f9e182820c8f	1549.5	2481048.833333330
0967bebbf092787a3d3400ce1c1a012d88cbc1af75b7f7d2850baec542285ca8	6391.166666666670	122547336.1666670
0d40472f6bca0211ad17770e9990344d16cf05b1f0fcd5b19fabdae86b1bc779	69341	4821406351.666670
103a0b7815fdec7b7920309d62b5bfb1d36bed9b909c68a44976cc452adb13e8	17863.83333333330	478675266.1666670
14c9357c4e4621e88d078764f978b2d0afed460175dc69d073959eff2c272373	0	0
1672870e984cf7cbc3d10e576d66acf1b25b5a029b2282d2930b5517dc075b30	997500.1666666670	1474838537987.170
167d0013957e4cbf435c12d3fd63e3001392dc37d7b90fd2ba5935ab4d2369b8	0	0
1aa839d0b39346e243f7e5499b1afcc020ebf829307dda753f912286303a309f	0	0
1ea02215d567605cc3ae010a3783a1b3c4a98e283fb335a92cf519c4244f4428	1799.33333333330	3407004.666666670
1ec8fb36c578c721e00d4143c6d2c2f66bbffb4d7fdb58bcf36a6a8deac713bc	0	0
1f84d65dc29c22dcebd15de79d856c5f97ffe8c9ff98dd5fa57ef2cd76f7cec7	2048	4211221.333333330
2033b5ce97dbe442e77ff61bd84dd7dec4b2e6924f7cad08f512bbebfe2d3c25	0	0
2b50aee511d92a136fcee32adb93e399cddd077177faacaf7b782d362cf0443e	0	0
3ea524a7f065cff72097620481e63a5e71b87f6224aa9e056d3305e9d4e4317e	309.6666666666670	113415.333333330
4e75c3d1f4a4a2a849bbca7b2026e7b2f25431837e2aff77f1ef17366dc285fa	0	0
4fe70e220f2051dbb83bc2aea5e8228e86076e175a0b2bc6cebf7c6d9c52aed3	0	0
56e17351365811a4fa64d6f53694551f9510f1e59540126203608632b5238a20	0	0
57c5360833db4eaa1fe783e98ba481dc8fc814202ed320a4cb4bd3c6512b1820	203	41209
5aa41124bc0750a4112601f430680a3e92abf0ebfaeb4cb91e08c8f80ee4363d	0	0
5ab7b3ef378baa6d3ebe1766cd5d47ecd167a1161a32684a70f035ae014e874f	92789.83333333330	27507351033
5c1dfcbf0cb262806b2f319e0cade0508c46100279ad08f2678897478d4d0fb7	699.6666666666670	756486.6666666670
667db67512cc04bcc9e001af617204d77fb9f648ce7ae660e5a3027076244ba	158.4000000000000	25090.55999999990
6935c9e1714190e42716a8b23e5cdab7c588b552c11d7c98c1b66d1c9c87d6fe	4083.200000000000	16672522.24000000

1.2 Weekly:

1.2.1 More than 365 records

Profile	MAE_AutoTS_w_365	MSE_AutoTS_w_365
02170cc6ad8d4839d4b103387977def165bea9631fd28de5379a59339bc6b942	25146.950000000000	632369094.3
0225ee6b651c06a7b02cf995cb466c63dc02b861b04fc5294457e5cd17c67267	7480.900000000000	55963864.81000000
077e1d3b46ac249ee51fdb604c82dfbdf350f46a48fe2ca20ea3bc11614cec64	245818.3076923080	60451406331.76930
0c997f518f0769c39126acb6538cae0f9c945346abecc99705370a49c377467e	75094.75	5639221478
100b80f30629b949b2b3015e944f81dbdee219520fecab758468d3e0c433e8f1	172708.2653846150	387728760899.6300
10bcfb1593e1c348b04c1aa2aeb4d1add22a9ffe71ba7340e9649574b01b1dbe	1130.876923076920	1423005.056346150
13ee2c9dc0adbe540b53810f8dd772aabba4f8db2fa634bcdfa14b7b4822158a	7594.684615384610	99458304.05250000
226f63965190887c5bebae105d865de652d7141ce1927db9e10609a193d04901	4447.357692	473854110.5986540
241b583fb8fe8bb759ef5ad6159ac45a0c78470e7718ae5a864a59b46705431a	25925.200000000000	1415519517.855380
2ad2fbc6a393c64ed2acfaeb4ef79119a6c1235424dd79ff8872391041db20e6	274877.8961538460	75557861919.55630
2b510f268099e381772458132e7d36345020e06b0fdffb447f551b1692dfd2af	308797.8192307690	98726651063.64490
2d7370c6b41cc46c9bb51ee4173701e9f62a09be4e90a49043f1b8e233bae8f9	27022.99230769230	1197783767.537110
2ff820539864726fb7a462376b05351622f465b400e19e9ddfcf73e84998f1bc	11497.66923076920	849383337.8600000
34a8632e209e2ffd5d1988c2d3b834d10002e0163b299eefddb31585801a072d	2443.134615384620	6101710.927884620
38ba9b43f8f4a85d3eda765dd78664aee6a82316b8d20a66bfb2a049696e277d	267714.9	72412740582.01000
45ed453b59c12e5fa9393c6709f0ff293d869e3c7e6e4240609c5921ace31d3a	38729.73076923080	1656646152.557690
4afed26c712ad555df1035470cafccd75938065c60350019d1fed0ac6476da12	58179.46538461540	26913670518
4b5dd50d244cbbc5326772c1898eb102d98ba99b433fb34a16544eb3c3ad50b7	772.7999999999990	597219.84
4bd9b3a20777e213f9de29c87e9a1a83f37b8c0fb6e170f71bb7de46a2e5f80e	273317.0153846150	74705272949.08690
4ddd36b860bb63461ba4f678ba5e2e43eec7946bcde1ee9d0603fd4b1ace666c	103.85	10784.82249999900

1.2.2 300-365

Profile	MAE_AutoTS_w_300	MSE_AutoTS_w_300
0385a1893cfc3d31caf2f904717039ed5bd40152626c32c9c735c7e8de0ea05c	2936.124904269590	8621064.686327980
03909ba84c6faf1d285deebf0b9be9d557d6b8f6fa358b9beb8fa8018bd9a4c0	872.2405797522170	760808.6126637300
0a7eb9fd8ffc224e541cb120178dc83f1fd31d73b5cc082eba372f2bf948ef9d	2750.4784719192500	7565134.053701890
1ee398aee66750f89e8ae811739ccb99734381991d2fc3f5fda10d0e573af499	1962.4459813338600	4656541.224
1f64d05fc9bbce293c141cca321106fafa26076d0737707a3826e037116ad24d	269658.6920929580	72715810221.28810
23e9b065f30942d65992fc2290f02e57d8eb137ae88a6d3d11a0f6f9cf9771a4	21843.643233011400	477144750.1096730
2daf9e6afde6b0ec7702156af97259f6a60a863ba55beb75b29cfef84efe74a8	15571.125194639300	242460342.37224900
2f48f05599adbdb12ab5e37a09c3fbb9dca8e522917243a4cdc17b8568ef2120	35399.51927102360	1253125969.9554900
313a2aaac559a9ea77b74216c4678f8b03aa0e2690975beedbb0cc28d7fcf8df	1829.9119055342800	3348578.101205190
31d8cb29a0d5a8840ef88e3406c2640f8aa5d1c873c3e8869bf534890e6dded0	9266.305739314070	85864443.96723760
34a8008fd2121d63d7613d719f4a3c418d4ef236fff35565d69d5b09f53187ef	1260.7515506833600	1589494.7164330600
387e108ca4420bb294d40f65616ff6191e82a9dfd57157cdf6c1d0ce7cba87a4	1041.6777629301800	1085092.6396934100
391787fef98f35003d0c6ed23ae86d37251c775bf56b0219d1fad55ce4b00515	197.9303680991570	39176.49947528090
3eb097badc6104244900d949b87208b7a5f0c7bcd1b14132002c32b592573722	121354.13011608700	14726825571.695100
42919e2f9c5336b2dffa27930b0308748f089cb823234831fb20603760681351	17696.996246943900	313183676.16829000
42c53d989a9b958f6d1965a3590109cd220e38aadd45b8fab76ec55bf9e62b87	234537.9590077680	55008054222.63040
44c9c63f103ca2f90cbbb1594b27ad5a993b15428c8872e602c7375645b9441c	10528.072415772600	110840308.79373500
512ad50c374357e81d9a271fe6386aaadce6baf13ccc38e3acd704c5ce9bbf8e	235771.03887498600	55587982772.20490
53a55db4ac7cb6480ee5b3930ff6a65fb05f9f4e7bf48add9c4bc9e6209e6080	274771.4795566930	75499366150.02740
56add85f9c254cbc9e1491110f104834bbc29345791a4d536058dcfb8812140b	45652.826633958800	2084180587.5518100

1.2.3 50-299

Profile	MAE_AutoTS_w_50	MSE_AutoTS_w_50
02af12a05e0bc918bf3d11c82f0bdd9c8eb2d468023d4576c90e248c402d406d	0	0
06653e0b982552df39bac305d78b9aa5610c08d08a51c8b10ca95871aa5de811	49.48148148148150	9376.666666666670
07f06c4ea2484850d6b362de8264c8164df08dce850056eddd480e6152470c5a	0	0
0a9f45c0c7b752bcef98c7d72e24461a39a89ebdcc6c5e67cb415208a0e388ea	43027.2963	2290643573.888890
10c7d077f54ccce4e526ffb0a0e182a546bfe4cad4a06140945d721cdb1bbb96	0	0
1851922e33d7d9ec1bd672238c5cb93762523ee35c5e92077ec7f2dd7a65c8b9	0	0
1bdebb0f96d1039af76952ec728cc9dac2069b6d63eab4bead87c49e7fe94488	78.29629629629630	23645.48148148150
202acf4db2944a1246d08a547b82a7493cbaedb057c746bb222a5b5651bd8cdd	0	0
414477328decb28eb2b6251ad8528d7524a82011a32b69cfdb1e61f9b438d2d7	47362.81481481480	2422696417.4074100
4d16487cd3a76231ab9c2dc1fd8752bb5ac3ee69a24dde02a004a06834b4d2e7	301.5925925925930	144462.85185185200
50490fcccfdaf19b816ab14ffac9dc2abc6b2ff5218c80fa39f17fc29ca5cec4	1039.6296296296300	2084457.4074074100
53650911b8d188d8f366439fc964381b9c4d71e3b001e3d2a5841df3a7c26150	2735.6666666666700	9622467
6ab59b72a5c871f723071d4d88a9c98fad3426372efe6c642f5011ee7f00e3a7	735.6666666666670	7811208.851851850
83425d854fc3e14fde46fb77989751586217d12694d0f20c9549dd0df7a3b2dd	88972.44444444440	8549383564
86aa3f2c9e5b33f4860e9ce3009bc4f02282421738c513c9e2382e3d21caf98c	1354.851851851850	3065216.407407410
8dcdeb7734556209a6556bb17c8788249c8eaf620daadfe30acc187eef71681e	29121.88888888890	7484335502.111110
91c2009d8e0a21571a43168d7d1c42ffbfeaa0a506cfd9fd96806de9b03d12dd	0.7777777777777780	5.37037037
98743cc738fdcd8a6e63052d56d5ab9471eb489e6ef82cd291d5a4a49b6991b5	720380.6666666670	609200756257.9260
99f9a8cb0567f05a95921fc6e055b8efb7dba556c5a5c07dc634693f948e6d51	4229.222222222220	25856065.222222200
9f409ef7b681f25b0bb07f713f89e7a184b81e9969c799be8097faf7cb19bf66	178.5185185185190	39243.33333333300
a998b0ffd93f7d74c634425b0bb875e34dc9b7f55e03d3f70b64aaf1f317d6ab	0	0
ba7a6e220b8e4746cee1ae0bac4726a488ac5a005ef4743f8c611d00ac737753	36259.444444444400	2074598483.6666700

1.2.4 90-299

Profile	MAE_AutoTS_w_50	MSE_AutoTS_w_50
00ed31934cb3ec073edcc77b23fd93bada5ee0047ddd31b60ce3f9e182820c8f	65423.784517332000	4280460168.1481500
0967bebbf092787a3d3400ce1c1a012d88cbc1af75b7f7d2850baec542285ca8	6883.733333333330	111512181.56740700
0d40472f6bca0211ad17770e9990344d16cf05b1f0fcd5b19fabdae86b1bc779	3341.3851851851800	15490672.528888900
103a0b7815fdec7b7920309d62b5bfb1d36bed9b909c68a44976cc452adb13e8	83994.05925925920	7055002713.336300
14c9357c4e4621e88d078764f978b2d0afed460175dc69d073959eff2c272373	0	0
1672870e984cf7cbc3d10e576d66acf1b25b5a029b2282d2930b5517dc075b30	1177062.9321392400	2002506253916.3700
167d0013957e4cbf435c12d3fd63e3001392dc37d7b90fd2ba5935ab4d2369b8	1.52E-13	3.45E-26
1aa839d0b39346e243f7e5499b1afcc020ebf829307dda753f912286303a309f	62.30000000000020	3881.2900000000200
1ea02215d567605cc3ae010a3783a1b3c4a98e283fb335a92cf519c4244f4428	41388.193932084500	1713310707.3833600
1ec8fb36c578c721e00d4143c6d2c2f66bbffb4d7fdb58bcf36a6a8deac713bc	5772.400000000000	33320601.760000000
1f84d65dc29c22dcebd15de79d856c5f97ffe8c9ff98dd5fa57ef2cd76f7cec7	9824.288889	96531429.60444450
2033b5ce97dbe442e77ff61bd84dd7dec4b2e6924f7cad08f512bbebfe2d3c25	0	0
2b50aee511d92a136fcee32adb93e399cddd077177faacaf7b782d362cf0443e	2738.200000000000	7497739.239999980
3ea524a7f065cff72097620481e63a5e71b87f6224aa9e056d3305e9d4e4317e	70153.04444444450	4921474799.071110
4e75c3d1f4a4a2a849bbca7b2026e7b2f25431837e2aff77f1ef17366dc285fa	536.600000000000	287939.5600000000
4fe70e220f2051dbb83bc2aea5e8228e86076e175a0b2bc6cebf7c6d9c52aed3	0	0
56e17351365811a4fa64d6f53694551f9510f1e59540126203608632b5238a20	3363.400000000000	11312459.560000000
57c5360833db4eaa1fe783e98ba481dc8fc814202ed320a4cb4bd3c6512b1820	203	41209
5aa41124bc0750a4112601f430680a3e92abf0ebfaeb4cb91e08c8f80ee4363d	1.60E-13	3.64E-26
5ab7b3ef378baa6d3ebe1766cd5d47ecd167a1161a32684a70f035ae014e874f	58270.74508965050	13917460514.183600
5c1dfcbf0cb262806b2f319e0cade0508c46100279ad08f2678897478d4d0fb7	4158.671878500160	179955257.28189900
667db67512cc04bcce9e001af617204d77fb9f648ce7ae660e5a3027076244ba	158.40000000000000	25090.559999999900
6935c9e1714190e42716a8b23e5cdab7c588b552c11d7c98c1b66d1c9c87d6fe	4083.200000000000	16672522.240000000