

| Trading strategy | Reference Points | | | |
|-------------------------------|-----------------------|------------------|-----------------------------|------------------|
| | Buy-and-hold strategy | | Perfect knowledge of target | |
| | Profit | Number of trades | Profit | Number of trades |
| BTC | | | | |
| Price movement (binary) | 279.56% | 2.0 | 181.887.02% | 247.1 |
| Extrema (min/max) +/- 7 days | - | - | 1.191.31% | 35.1 |
| Extrema (min/max) +/- 14 days | - | - | 1.266.22% | 16.6 |
| Extrema (min/max) +/- 21 days | - | - | 1.191.31% | 10.3 |
| ETH | | | | |
| Price movement (binary) | 85.99% | 2.0 | 46.297.82% | 164.6 |
| Extrema (min/max) +/- 7 days | - | - | 327.47% | 22.6 |
| Extrema (min/max) +/- 14 days | - | - | 257.06% | 11.7 |
| Extrema (min/max) +/- 21 days | - | - | 213.23% | 8.3 |

Crypto price forecasting performance for various target variables by model and training data

| Model | | | | | (Ridge) OLS / Logit | | | | | | | | | | | | | | | |
|---------------------------------|------------------------|------------------|---------|----------|--|------------------|---------|----------|------------------------------------|------------------|---------|----------|--|------------------|---------|----------|--|------------------|---------|----------|
| | Causal stationary data | | | | Causal stationary data + Twitter Roberts | | | | Causal stationary data + BART MNLI | | | | Causal stationary data + Full Pretrained NLP | | | | Causal stationary data + Finetuned NLP | | | |
| | Excess profit | Number of trades | ROC AUC | Accuracy | Excess profit | Number of trades | ROC AUC | Accuracy | Excess profit | Number of trades | ROC AUC | Accuracy | Excess profit | Number of trades | ROC AUC | Accuracy | Excess profit | Number of trades | ROC AUC | Accuracy |
| BTC | | | | | | | | | | | | | | | | | | | | |
| Price movement (regression) | -36.70% | 217.7 | 0.5257 | 0.5293 | -21.14% | 219.1 | 0.5286 | 0.5305 | -9.80% | 211.1 | 0.5203 | 0.5342 | 37.11% | 209.1 | 0.5368 | 0.5317 | -25.45% | 217.1 | 0.5297 | 0.5293 |
| Price movement (classification) | 126.27% | 108.9 | 0.5326 | 0.5356 | 117.96% | 111.4 | 0.5339 | 0.5358 | 105.01% | 104.6 | 0.5354 | 0.5359 | 126.45% | 111.1 | 0.5339 | 0.5353 | 120.14% | 108.9 | 0.5312 | 0.5303 |
| Extrema (min/max) +/- 7 days | 7.40% | 2.0 | 0.7396 | 0.9546 | 9.97% | 2.0 | 0.7405 | 0.9569 | 7.26% | 2.0 | 0.7437 | 0.9580 | 12.54% | 2.3 | 0.7444 | 0.9570 | 7.40% | 2.0 | 0.7429 | 0.9538 |
| Extrema (min/max) +/- 14 days | 5.72% | 2.3 | 0.7573 | 0.9747 | 6.91% | 2.3 | 0.7654 | 0.9791 | 6.91% | 2.3 | 0.7619 | 0.9803 | 7.08% | 2.6 | 0.7704 | 0.9795 | 5.33% | 2.3 | 0.7630 | 0.9760 |
| Extrema (min/max) +/- 21 days | 5.00% | 2.3 | 0.8005 | 0.9848 | 2.77% | 2.0 | 0.7995 | 0.9872 | 2.77% | 2.0 | 0.8016 | 0.9884 | 7.15% | 2.0 | 0.7937 | 0.9873 | 9.95% | 2.0 | 0.7922 | 0.9840 |
| ETH | | | | | | | | | | | | | | | | | | | | |
| Price movement (regression) | 136.62% | 105.7 | 0.5418 | 0.5482 | 126.23% | 110.3 | 0.5418 | 0.5457 | 148.00% | 128.6 | 0.5412 | 0.5443 | 152.08% | 119.7 | 0.5469 | 0.5488 | 121.48% | 108.3 | 0.5376 | 0.5414 |
| Price movement (classification) | 275.06% | 83.7 | 0.5626 | 0.5719 | 300.73% | 80.0 | 0.5650 | 0.5762 | 304.98% | 77.1 | 0.5670 | 0.5676 | 302.06% | 80.0 | 0.5686 | 0.5710 | 295.88% | 67.7 | 0.5574 | 0.5660 |
| Extrema (min/max) +/- 7 days | 21.44% | 2.0 | 0.7199 | 0.9517 | 17.84% | 2.0 | 0.7235 | 0.9500 | 22.15% | 2.0 | 0.7208 | 0.9493 | 31.41% | 2.0 | 0.7343 | 0.9687 | 36.96% | 2.3 | 0.7254 | 0.9441 |
| Extrema (min/max) +/- 14 days | 29.90% | 2.6 | 0.8003 | 0.9768 | 18.17% | 2.6 | 0.7687 | 0.9750 | 16.96% | 2.3 | 0.8019 | 0.9743 | 20.32% | 2.6 | 0.8069 | 0.9819 | 13.59% | 2.3 | 0.7700 | 0.9690 |
| Extrema (min/max) +/- 21 days | 30.47% | 2.3 | 0.8003 | 0.9809 | 30.47% | 2.3 | 0.8102 | 0.9790 | 30.47% | 2.3 | 0.8014 | 0.9784 | 30.47% | 2.3 | 0.8048 | 0.9880 | 30.47% | 2.3 | 0.8046 | 0.9730 |

| Model | | | | | XGBoost | | | | | | | | | | | | | | | |
|---------------------------------|------------------------|------------------|---------|----------|--|------------------|---------|----------|------------------------------------|------------------|---------|----------|--|------------------|---------|----------|--|------------------|---------|----------|
| | Causal stationary data | | | | Causal stationary data + Twitter Roberts | | | | Causal stationary data + BART MNLI | | | | Causal stationary data + Full Pretrained NLP | | | | Causal stationary data + Finetuned NLP | | | |
| | Excess profit | Number of trades | ROC AUC | Accuracy | Excess profit | Number of trades | ROC AUC | Accuracy | Excess profit | Number of trades | ROC AUC | Accuracy | Excess profit | Number of trades | ROC AUC | Accuracy | Excess profit | Number of trades | ROC AUC | Accuracy |
| BTC | | | | | | | | | | | | | | | | | | | | |
| Price movement (regression) | 216.35% | 186.9 | 0.5342 | 0.5380 | 317.41% | 143.4 | 0.5302 | 0.5409 | 201.68% | 90.8 | 0.5198 | 0.5357 | 300.86% | 94.0 | 0.5285 | 0.5394 | 351.34% | 70.9 | 0.5262 | 0.5458 |
| Price movement (classification) | 177.05% | 61.7 | 0.5418 | 0.5563 | 203.69% | 143.7 | 0.5406 | 0.5686 | 217.23% | 116.0 | 0.5438 | 0.5656 | 202.01% | 157.7 | 0.5488 | 0.5659 | 184.13% | 132.6 | 0.5408 | 0.5603 |
| Extrema (min/max) +/- 7 days | 14.13% | 2.3 | 0.7626 | 0.9579 | 16.00% | 2.3 | 0.7683 | 0.9577 | 50.42% | 2.3 | 0.7651 | 0.9580 | 64.77% | 2.9 | 0.7686 | 0.9574 | 62.80% | 2.6 | 0.7681 | 0.9576 |
| Extrema (min/max) +/- 14 days | 26.91% | 2.3 | 0.8031 | 0.9794 | 31.76% | 2.3 | 0.8069 | 0.9795 | 31.76% | 2.3 | 0.7986 | 0.9799 | 19.50% | 2.3 | 0.8000 | 0.9797 | 27.28% | 2.3 | 0.8000 | 0.9796 |
| Extrema (min/max) +/- 21 days | 7.22% | 2.0 | 0.8831 | 0.9872 | 16.97% | 2.3 | 0.8517 | 0.9873 | 13.73% | 2.3 | 0.8567 | 0.9873 | 20.38% | 2.3 | 0.8487 | 0.9875 | 19.14% | 2.3 | 0.8501 | 0.9875 |
| ETH | | | | | | | | | | | | | | | | | | | | |
| Price movement (regression) | 163.06% | 93.7 | 0.5291 | 0.5314 | 200.77% | 112.9 | 0.5293 | 0.5300 | 164.15% | 84.9 | 0.5314 | 0.5314 | 210.53% | 108.3 | 0.5333 | 0.5333 | 195.57% | 93.4 | 0.5264 | 0.5298 |
| Price movement (classification) | 311.89% | 103.4 | 0.5614 | 0.5705 | 290.29% | 110.9 | 0.5624 | 0.5719 | 258.89% | 102.0 | 0.5675 | 0.5748 | 291.43% | 98.6 | 0.5714 | 0.5714 | 370.77% | 94.9 | 0.5607 | 0.5729 |
| Extrema (min/max) +/- 7 days | 25.77% | 2.0 | 0.7435 | 0.9571 | 46.60% | 2.6 | 0.7458 | 0.9571 | 40.10% | 2.3 | 0.7418 | 0.9576 | 30.07% | 2.3 | 0.7474 | 0.9574 | 43.23% | 2.3 | 0.7476 | 0.9569 |
| Extrema (min/max) +/- 14 days | 48.95% | 2.0 | 0.8187 | 0.9824 | 64.22% | 2.3 | 0.8325 | 0.9821 | 42.15% | 2.9 | 0.8338 | 0.9824 | 53.28% | 2.6 | 0.8334 | 0.9821 | 29.54% | 2.6 | 0.8305 | 0.9817 |
| Extrema (min/max) +/- 21 days | 53.80% | 2.3 | 0.8248 | 0.9884 | 28.90% | 2.3 | 0.8275 | 0.9882 | 13.81% | 2.3 | 0.8388 | 0.9884 | 29.67% | 2.3 | 0.8216 | 0.9884 | 15.97% | 2.3 | 0.8303 | 0.9884 |

| Model | | | | | MLP (FNN) | | | | | | | | | | | | | | | |
|---------------------------------|------------------------|------------------|---------|----------|--|------------------|---------|----------|------------------------------------|------------------|---------|----------|--|------------------|---------|----------|--|------------------|---------|----------|
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| | Excess profit | Number of trades | ROC AUC | Accuracy | Excess profit | Number of trades | ROC AUC | Accuracy | Excess profit | Number of trades | ROC AUC | Accuracy | Excess profit | Number of trades | ROC AUC | Accuracy | Excess profit | Number of trades | ROC AUC | Accuracy |
| BTC | | | | | | | | | | | | | | | | | | | | |
| Price movement (regression) | 25.96% | 223.1 | 0.5229 | 0.5383 | 49.17% | 77.4 | 0.5206 | 0.5403 | 57.29% | 216.9 | 0.5235 | 0.5406 | 172.08% | 142.3 | 0.5213 | 0.5379 | 87.10% | 172.0 | 0.5242 | 0.5391 |
| Price movement (classification) | 183.06% | 99.1 | 0.5354 | 0.5583 | 214.29% | 92.3 | 0.5378 | 0.5620 | 167.89% | 126.0 | 0.5335 | 0.5583 | 208.54% | 90.6 | 0.5339 | 0.5565 | 169.03% | 111.4 | 0.5328 | 0.5574 |
| Extrema (min/max) +/- 7 days | 135.80% | 2.6 | 0.7409 | 0.9576 | 127.43% | 2.0 | 0.7338 | 0.9574 | 140.25% | 2.6 | 0.7414 | 0.9577 | 133.59% | 2.3 | 0.7396 | 0.9576 | 169.12% | 2.3 | 0.7334 | 0.9574 |
| Extrema (min/max) +/- 14 days | 52.34% | 2.6 | 0.7616 | 0.9795 | 71.56% | 2.3 | 0.7628 | 0.9794 | 13.56% | 2.3 | 0.7748 | 0.9797 | 46.92% | 2.6 | 0.7817 | 0.9795 | 123.68% | 2.9 | 0.7581 | 0.9795 |
| Extrema (min/max) +/- 21 days | 11.07% | 2.0 | 0.8666 | 0.9889 | 11.35% | 2.3 | 0.7796 | 0.9873 | 47.08% | 2.3 | 0.8207 | 0.9875 | 32.09% | 2.3 | 0.8012 | 0.9875 | 36.24% | 2.3 | 0.7944 | 0.9875 |
| ETH | | | | | | | | | | | | | | | | | | | | |
| Price movement (regression) | 210.75% | 128.3 | 0.5445 | 0.5482 | 224.38% | 109.4 | 0.5439 | 0.5495 | 206.17% | 121.7 | 0.5466 | 0.5505 | 251.98% | 127.4 | 0.5482 | 0.5529 | 230.31% | 104.9 | 0.5445 | 0.5481 |
| Price movement (classification) | 234.54% | 99.7 | 0.5631 | 0.5729 | 271.91% | 88.1 | 0.5611 | 0.5743 | 354.81% | 82.9 | 0.5630 | 0.5705 | 348.89% | 85.7 | 0.5672 | 0.5692 | 310.07% | 82.6 | 0.5680 | 0.5695 |
| Extrema (min/max) +/- 7 days | 49.41% | 2.0 | 0.7370 | 0.9587 | 73.56% | 2.0 | 0.7201 | 0.9557 | 49.65% | 2.0 | 0.7129 | 0.9564 | 70.50% | 2.0 | 0.7370 | 0.9569 | 88.14% | 2.0 | 0.7228 | 0.9567 |
| Extrema (min/max) +/- 14 days | 69.31% | 2.0 | 0.8085 | 0.9826 | 95.55% | 4.6 | 0.8189 | 0.9821 | 101.97% | 2.3 | 0.7967 | 0.9819 | 104.01% | 2.9 | 0.8144 | 0.9819 | 102.10% | 3.7 | 0.7998 | 0.9821 |
| Extrema (min/max) +/- 21 days | 50.79% | 3.4 | 0.8133 | 0.9884 | 75.58% | 3.1 | 0.8088 | 0.9855 | 55.70% | 2.6 | 0.7927 | 0.9862 | 51.67% | 2.3 | 0.8057 | 0.9862 | 49.35% | 2.9 | 0.8035 | 0.9867 |

| Model | | | | | LSTM | | | | | | | | | | | | | | | |
|---------------------------------|------------------------|------------------|---------|----------|--|------------------|---------|----------|------------------------------------|------------------|---------|----------|--|------------------|---------|----------|--|------------------|---------|----------|
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| | Excess profit | Number of trades | ROC AUC | Accuracy | Excess profit | Number of trades | ROC AUC | Accuracy | Excess profit | Number of trades | ROC AUC | Accuracy | Excess profit | Number of trades | ROC AUC | Accuracy | Excess profit | Number of trades | ROC AUC | Accuracy |
| BTC | | | | | | | | | | | | | | | | | | | | |
| Price movement (regression) | 61.72% | 14.9 | 0.5180 | 0.5330 | 126.24% | 61.1 | 0.5267 | 0.5375 | 25.63% | 30.3 | 0.5212 | 0.5351 | 107.76% | 12.6 | 0.5213 | 0.5403 | 159.98% | 22.9 | 0.5202 | 0.5400 |
| Price movement (classification) | 165.84% | 46.9 | 0.5405 | 0.5617 | 234.35% | 13.7 | 0.5253 | 0.5525 | 142.65% | 52.3 | 0.5388 | 0.5592 | 137.08% | 13.1 | 0.5289 | 0.5531 | 193.66% | 17.1 | 0.5277 | 0.5519 |
| Extrema (min/max) +/- 7 days | 126.26% | 2.0 | 0.6917 | 0.9570 | 126.26% | 2.0 | 0.6774 | 0.9586 | 126.26% | 2.0 | 0.6851 | 0.9570 | 129.85% | 2.3 | 0.6803 | 0.9570 | 6.55% | 2.0 | 0.6746 | 0.9568 |
| Extrema (min/max) +/- 14 days | 4.21% | 2.0 | 0.7180 | 0.9789 | 12.05% | 2.3 | 0.7421 | 0.9788 | 14.02% | 2.3 | 0.7444 | 0.9791 | 12.33% | 2.0 | 0.7135 | 0.9791 | 12.99% | 2.0 | 0.7326 | 0.9789 |
| Extrema (min/max) +/- 21 days | 7.54% | 2.0 | 0.7705 | 0.9870 | 9.34% | 2.0 | 0.7611 | 0.9870 | 12.57% | 2.3 | 0.7742 | 0.9869 | 81.72% | 4.0 | 0.7665 | 0.9870 | 9.34% | 2.0 | 0.7624 | 0.9870 |
| ETH | | | | | | | | | | | | | | | | | | | | |
| Price movement (regression) | 71.53% | 5.7 | 0.5258 | 0.5300 | 114.05% | 30.3 | 0.5232 | 0.5257 | 78.29% | 8.6 | 0.5216 | 0.5333 | 54.50% | 24.0 | 0.5222 | 0.5267 | 66.77% | 12.0 | 0.5287 | 0.5281 |
| Price movement (classification) | 193.21% | 56.3 | 0.5543 | 0.5619 | 152.70% | 54.0 | 0.5510 | 0.5610 | 190.01% | 26.9 | 0.5459 | 0.5600 | 219.39% | 47.1 | 0.5568 | 0.5614 | 139.87% | 64.6 | 0.5511 | 0.5624 |
| Extrema (min/max) +/- 7 days | 74.77% | 2.0 | 0.6814 | 0.9564 | 68.14% | 2.0 | 0.6779 | 0.9562 | 82.67% | 2.6 | 0.6890 | 0.9562 | 73.52% | 2.0 | 0.6900 | 0.9564 | 67.11% | 2.6 | 0.6737 | 0.9564 |
| Extrema (min/max) +/- 14 days | 15.68% | 2.0 | 0.7321 | 0.9812 | 95.87% | 2.3 | 0.7327 | 0.9814 | 105.21% | 2.3 | 0.7335 | 0.9810 | 17.50% | 2.0 | 0.7352 | 0.9810 | 32.90% | 2.0 | 0.7263 | 0.9810 |
| Extrema (min/max) +/- 21 days | 68.51% | 2.0 | 0.8123 | 0.9862 | 121.54% | 2.3 | 0.8260 | 0.9867 | 78.61% | 2.0 | 0.7971 | 0.9862 | 79.57% | 2.0 | 0.8014 | 0.9860 | 75.02% | 2.0 | 0.8162 | 0.9862 |