

# Portföy Yönetim Modeli

Alper Ülkü



# Markov Markowitz<sup>®</sup>

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Markalarımız:  
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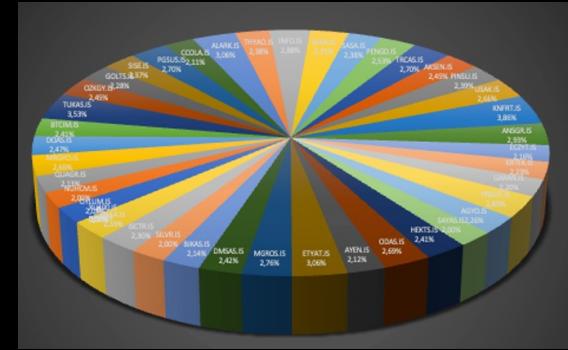
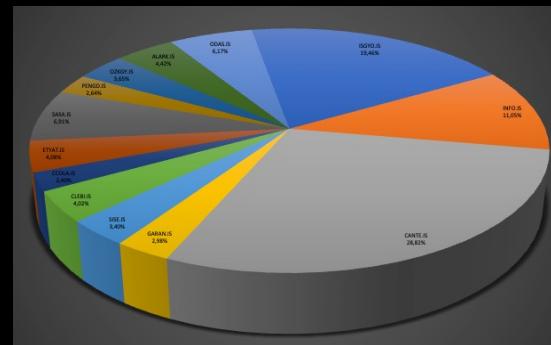
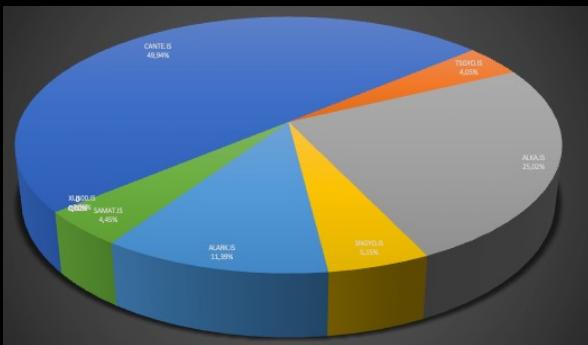
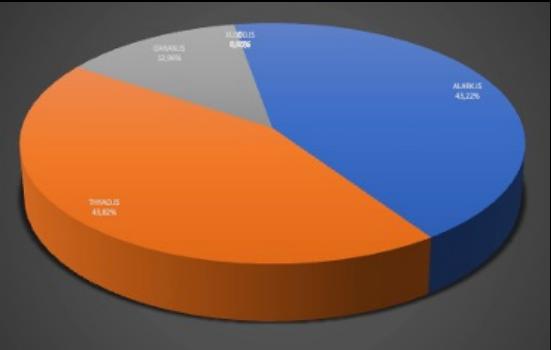


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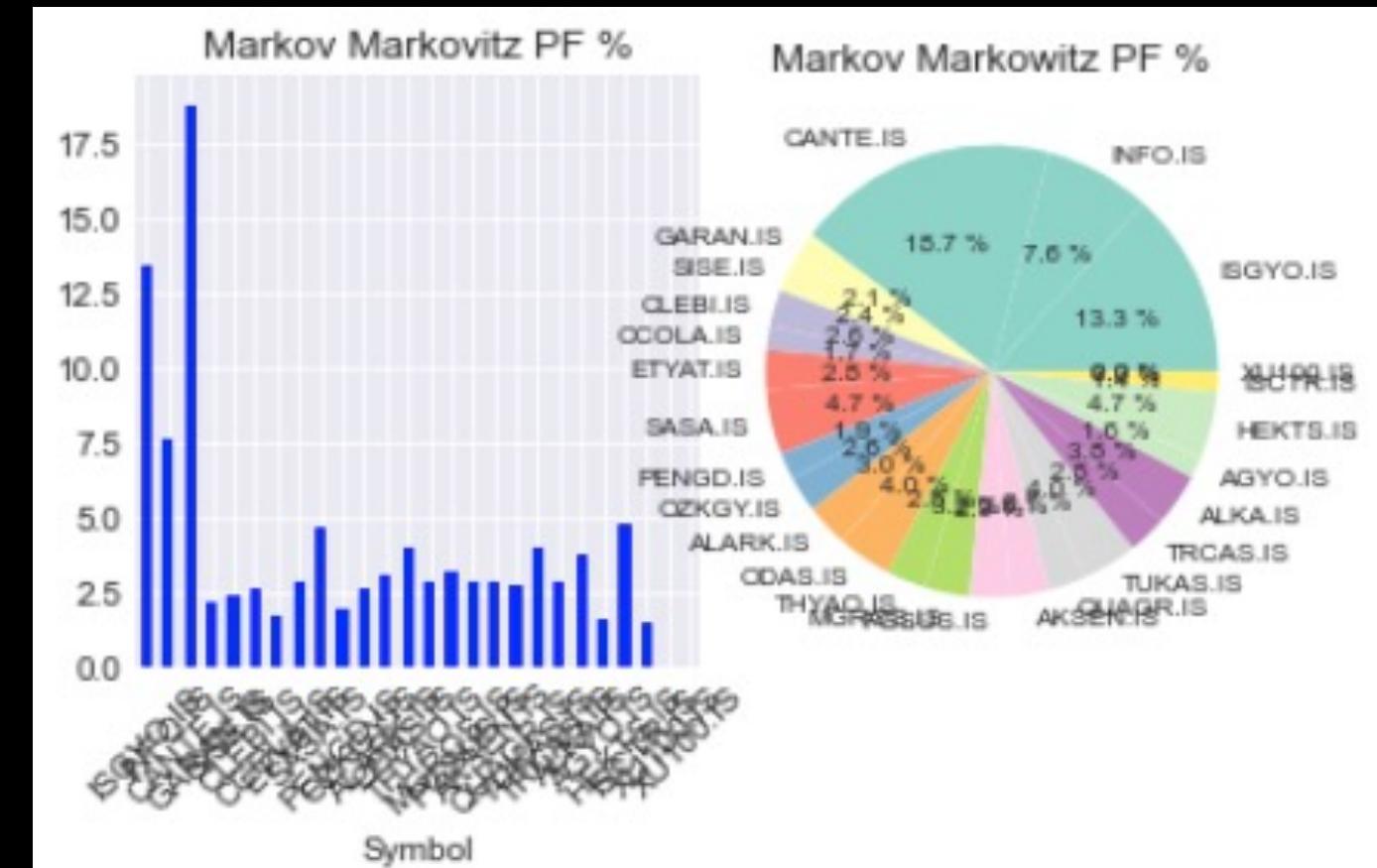
AlgoQwin



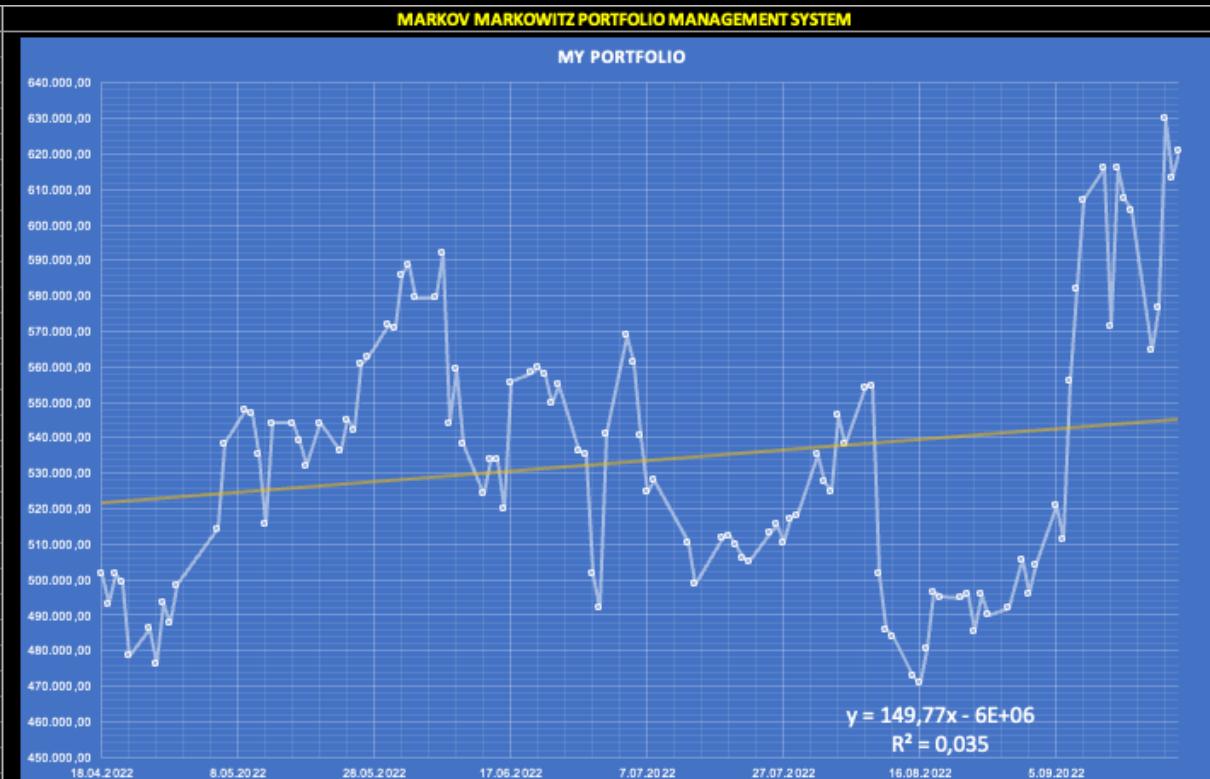
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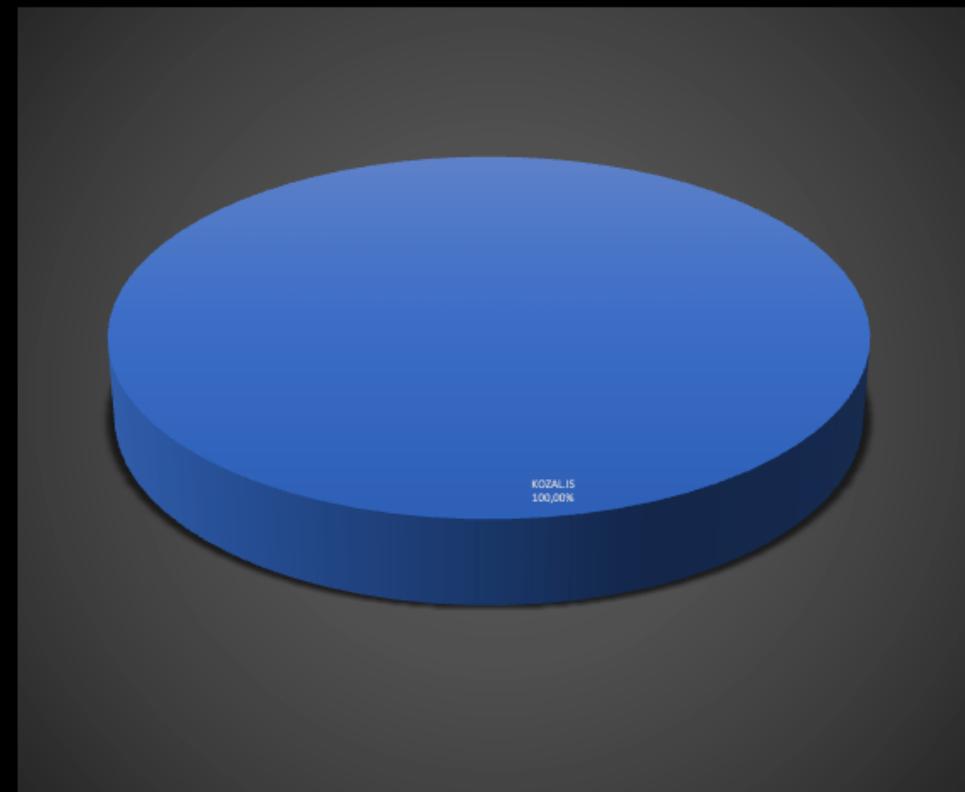
# PyFolio usage in Python



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	Symbol	Quantity	Purchase Price	Current Price	Purchased Value	Last Value	P/L	End PF %	New Transaction	Qty
1	KOZAL.IS	3195	188,07	197,20	600.883,65	630.054,00	100,00%	100,0000	€20.000,00	101
2	XU100.IS	0,00001	3000	3.245,76	€0,03	€0,03	8,19%	0,0000	€0,00	
3										



PORTFOLIO NAME	AU_BIST500_v532_HI2.5_L00.0_BK140D-FW30D-SH8.68-ON2022-08-04_VARIANT
<b>PORTFOLIO GENERAL</b>	
PF INDEX (OF 1,0)	1,2374
PERIOD RETURNS	€119.109,61
AVE. DAILY RETURNS	€1.123,68
NUMBER OF ASSETS	2
PF START VALUE	€501.678,93
PF TODAY VALUE	€620.788,53
START DATE	18.04.2022
END DATE	23.09.2022
TRADE DAYS	106
UPDAYS	51
DOWNDAYS	52
HIT RATIO %	48,1%
<b>RETURNS %</b>	
ANNUALIZED RETURN	65,16%
PERIOD RETURNS	23,74%
AVE. DAILY RETURNS	0,25%
MAX DAILY %	10,00%
MIN. DAILY %	-9,56%
LAST DAILY %	-0,96%
ANNUAL RFR %	16,77%
MONTLY RFR %	0,56%
MONTLY RFR %	0,03%
<b>STATISTICAL</b>	
INDEX	XU100
ALPHA	0,1670
BETA	0,6840
SHARPE RATIO	1,23
SORTINO RATIO	1,91
STANDARD DEVIATION	3,29%
VOLATILITY	52,21%
CALMAR RATIO	3,18
TAIL RATIO (BEST WINS / WORST LOSS)	1,3356
OMEGA RATIO	1,24
STABILITY	2,53%
MAX DRAWDOWN %	20,49%
DAILY VALUE AT RISK	-6,32%
SKEW	0,1731

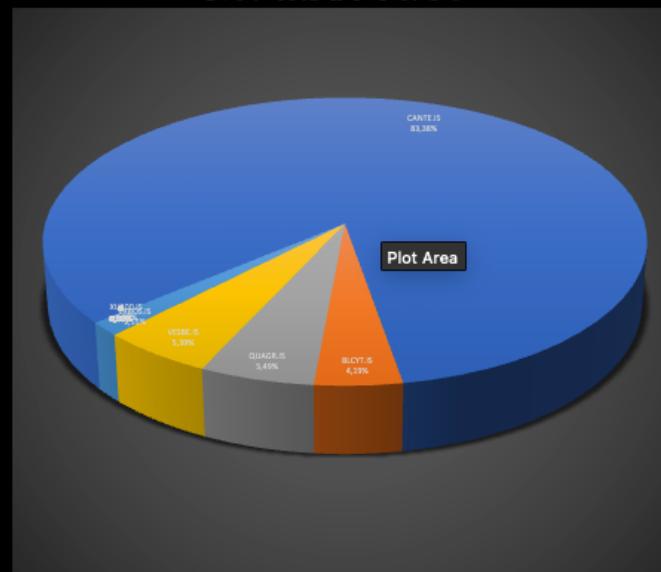
# 1000Portfolios



PORTFOLIO NAME: BIST500\_v536\_HI2.5\_L00.0\_BK140D-FW30D-SH7.97-ON2022-08-14

PORTFOLIO GENERAL		RETURNS %	STATISTICAL
PF INDEX (OF 1.0)	4,6477	ANNUALIZED RETURN	280,02%
PERIOD RETURNS	+1.829,957,06	PERIOD RETURNS	364,77%
AVE. DAILY RETURNS	66,332,03	AVE. DAILY RETURNS	0,56%
NUMBER OF ASSETS	6	MAX DAILY %	8,52%
PF START VALUE	6501,678,93	MIN. DAILY %	-8,94%
PF TODAY VALUE	62.331.635,98	LAST DAILY %	-0,74%
START DATE	2.08.2021	ANNUAL RFR %	16,77%
END DATE	23.09.2022	MONTLY RFR %	0,56%
		MONTLY RFR %	0,03%
TRADE DAYS	289	TAIL RATIO (BEST WINS / WORST LOSS)	
UPDAYS	177	1,8986	
DOWNDAYS	112	OMEGA RATIO	
HIT RATIO %	61,2%	2,00	
		STABILITY %	
		84,99%	
		MAX DRAWDOWN %	
		16,50%	
		DAILY VALUE AT RISK %	
		-4,40%	
		SKW	
		0,4617	
		KURTOSIS	
		2,8185	

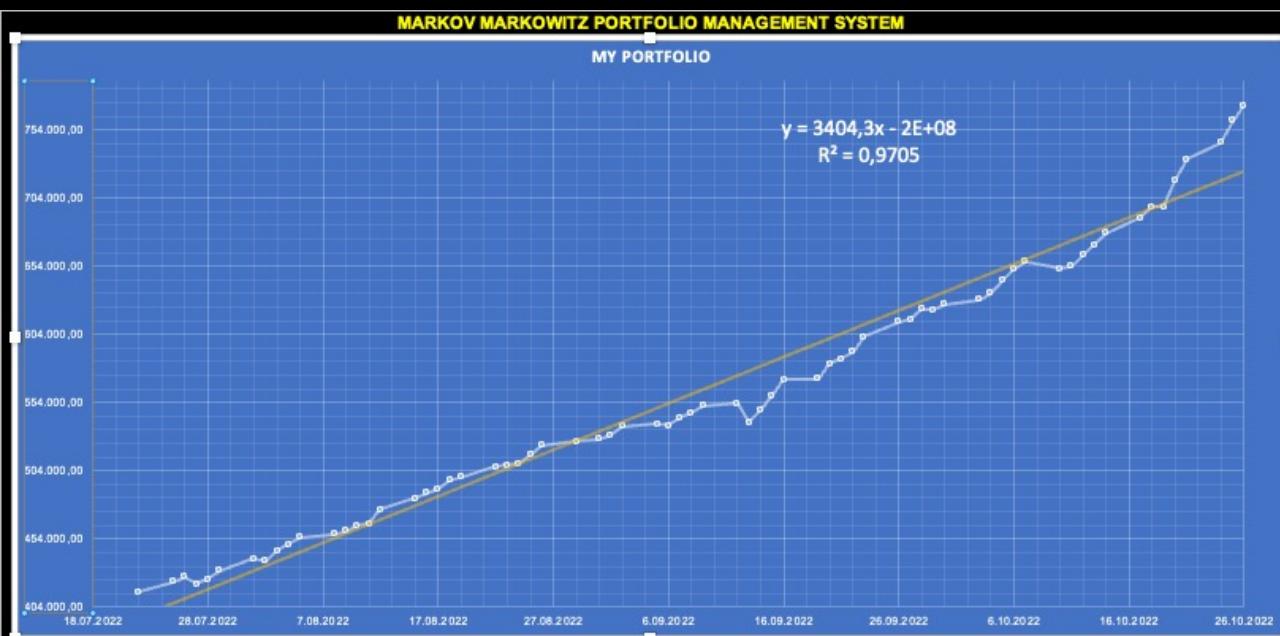
Symbol	Quantity	Purchase Price	Current Price	Purchased Value	Last Value	P/L	End PF %	
1 CANTE.IS	17269	10,73	996,00	€185.296,37	€100,00%	83,3785	€16.675,69	173
2 BLCYT.IS	6846	11,9	€12,16	€81.467,40	€83.247,36	2,18%	4,1868	68
3 QUAGR.IS	3151	13,39	€34,62	€42.191,89	€109.087,62	158,55%	5,4864	31
4 VESBE.IS	11422	3,28	€9,39	€37.464,16	€107.252,58	186,28%	5,3942	114
5 ERBOS.IS	248	96	€124,60	€23.808,00	€30.900,80	29,79%	1,5541	2
6 XU100.IS	0,00001	3000	€3.281,61	€0,03	€0,03	9,39%		
7								





# EN İYİ PORTFÖY - 1

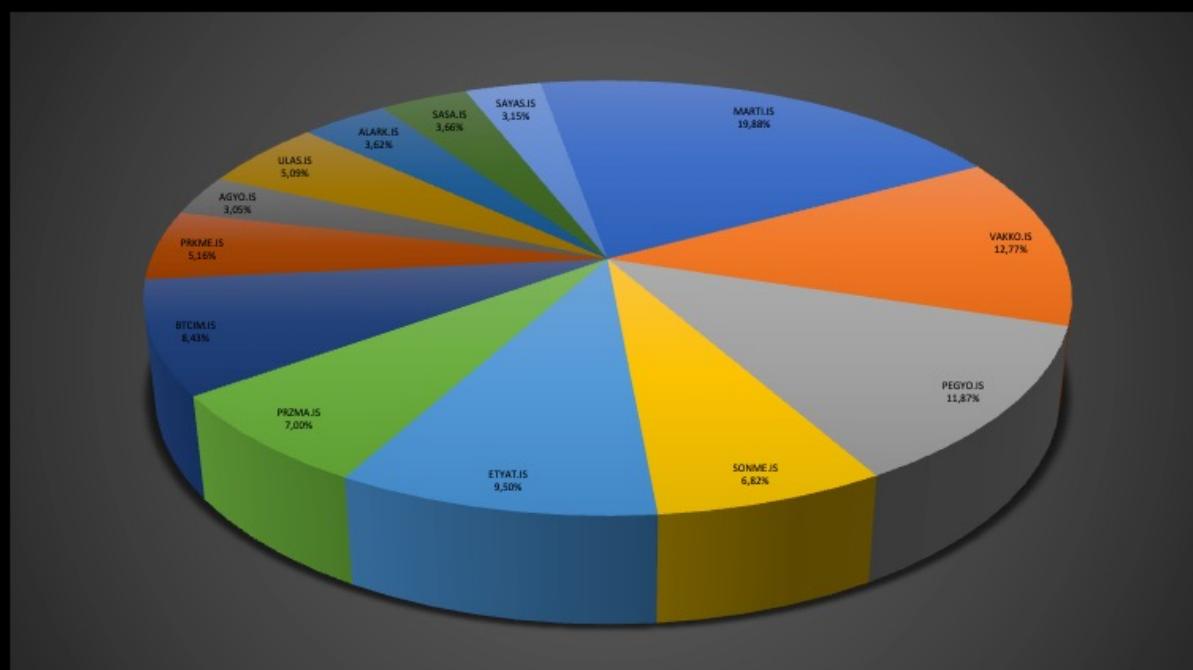
# 1000 Portfolios



PYTHON PORTFOLIO NAME: BIST500\_v541\_HI100\_LO0\_BK140D-FW0D-SH12.45-ON2022-10-16

PORTFOLIO GENERAL		RETURNS %		STATISTICAL	
PF INDEX (OF 1.0)	1,8766	ANNUALIZED RETUR	864,10%	INDEX	XU100
PERIOD RETURNS	₺363.759,79	PERIOD RETURNS	87,66%	ALPHA	0,7553
AVE. DAILY RETURNS	₺5.271,88	AVE. DAILY RETURN	0,92%	BETA	0,2544
PREDICTED MONTLY INCOI	₺105.437,62	MAX DAILY %	2,74%	SHARPE RATIO	16,85
DIVERSIFICATION	17	MIN. DAILY %	-2,56%	SORTINO RATIO	40,80
PERIOD PF START VALUE	₺414.977,22	LAST DAILY %	0,27%	STANDARD DEVIATION	1,66%
PERIOD PF TODAY VALUE	₺778.737,01	ANNUAL RFR %	16,77%	VOLATILITY	13,76%
PERIOD PF MAX VALUE	₺778.737,01	MONTLY RFR %	0,56%	CALMAR RATIO	338,11
PERIOD PF MIN VALUE	₺414.977,22	MONTLY RFR %	0,03%	TAIL RATIO (BEST WINS / WOR	6,0027
PERIOD START DATE	22.07.2022	MIGRATION-REBALANCE		OMEGA RATIO	13,07
PERIOD END DATE	28.10.2022	New Transaction	₺ 22.000,00	STABILITY	98,99%
PERIOD TRADE DAYS	69	Transaction Type	BUY	MAX DRAWDOWN %	-2,56%
PERIOD UPDAYS	63			DAILY VALUE AT RISK	-0,81%
PERIOD DOWNDAYS	6			SKEW	0,4078
PERIOD HIT RATIO %	91,3%			KURTOSIS	-0,7417
Realized Start PF Value	₺ 561.500,00				
Realized End PF Value	₺ 778.737,01				
Realized P/F	38,69%				

Symbol	Quantity	Purchase Price	Current Price	Change	Change %	Total Value	Value %	Count	Sum
1 MARTI.IS	25145	4,36	₺109.552,20	₺142.320,70	29,62%	₺11,7425	₺4.020,65	710	₺710
2 VAKKO.IS	3008	27,98	₺91.443,20	₺84.945,90	8,65%	10,9082	₺2.583,35	84	₺84
3 PEGYO.IS	28410	2,45	₺69.604,50	₺48.816,32	22,04%	6,2687	₺2.399,80	802	₺802
4 SONME.IS	1178	45,86	₺54.023,08	₺67.987,92	-9,64%	8,7305	₺1.920,72	207	₺207
5 ETYAT.IS	7358	7	₺51.506,00	₺50.149,76	32,00%	6,4399	₺1.416,77	278	₺278
6 PRZMA.IS	9872	5,01	₺49.458,72	₺49.458,72	1,40%	4,6800	₺1.029,59	119	₺119
7 BTCIM.IS	1344	36,62	₺49.217,28	₺60.318,72	22,56%	7,7457	₺1.704,06	37	₺37
8 PRKME.IS	2473	14,32	₺35.413,36	₺36.971,35	4,40%	4,7476	₺1.044,47	69	₺69
9 AGYO.IS	3575	7,63	₺27.277,25	₺21.843,25	-19,92%	2,8050	₺617,09	100	₺100
10 ULAS.IS	4223	6,16	₺26.013,68	₺36.444,49	40,10%	4,6800	₺1.029,59	119	₺119
11 ALARK.IS	406	62,85	₺25.517,10	₺25.923,10	1,59%	3,3289	₺732,35	11	₺11
12 SASA.IS	240	85,7	₺20.568,00	₺26.232,00	27,54%	3,3685	₺741,08	6	₺6
13 SAYAS.IS	754	23,36	₺17.613,44	₺22.529,52	27,91%	2,8931	₺636,48	21	₺21
14 CLEBI.IS	36	489,1	₺17.607,60	₺17.892,00	1,62%	2,2976	₺505,47	1	₺1
15 SELEC.IS	691	23,12	₺15.975,92	₺15.851,54	-0,78%	2,0355	₺447,82	19	₺19
16 ANSGR.IS	1472	8,74	₺12.865,28	₺13.822,08	7,44%	1,7749	₺390,49	41	₺41
17 ORGE.IS	671	17,49	₺11.735,79	₺15.245,12	29,90%	1,9577	₺430,69	18	₺18
18 XU100.IS	0,00001	3000	₺3.878,98	₺0,03	29,30%	0,04			
19									

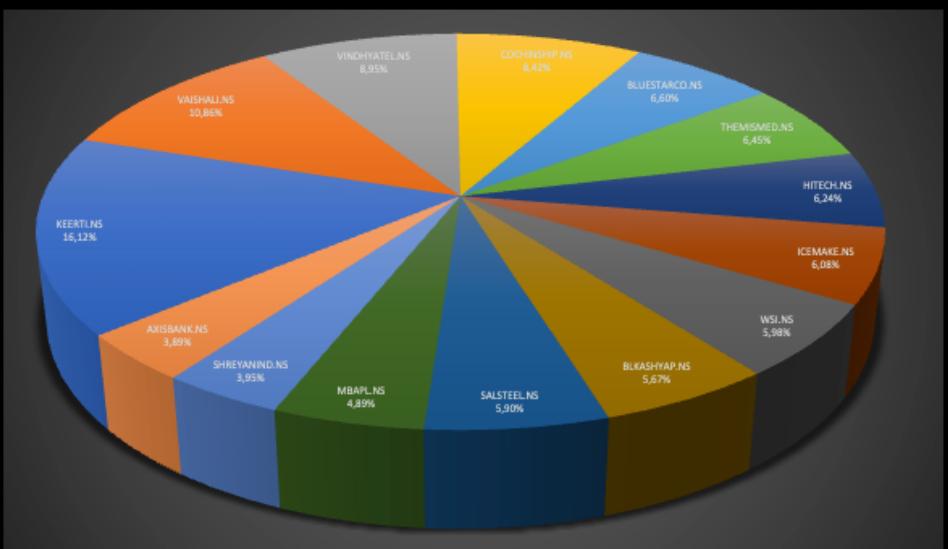


# EN İYİ PORTFÖY - 2



YF PORTFOLIO NAME	NSE_v544_HI100_L00_BK140D-FW0D-SH11.19-ON2022-12-16
<b>PORTFOLIO GENERAL</b>	
PF INDEX (OF 1.0)	1,5779
PERIOD RETURNS	₹38.742,54
AVE. DAILY RETURNS	₹416,59
PREDICTED MONTHLY INCOM	₹8.331,73
DIVERSIFICATION	17
PERIOD PF START VALUE	₹67.043,86
PERIOD PF TODAY VALUE	₹105.786,40
PERIOD PF MAX VALUE	₹105.786,40
PERIOD PF MIN VALUE	₹67.043,86
PERIOD START DATE	27.07.2022
PERIOD END DATE	13.12.2022
PERIOD TRADE DAYS	93
PERIOD UPDAYS	71
PERIOD DOWNDAYS	22
PERIOD HIT RATIO %	76,3%
Realized Start PF Value	₹67.043,86
Realized End PF Value	₹106.351,45
Realized P/F	58,63%
<b>RETURNS %</b>	
ANNUALIZED RETURN	804,46%
PERIOD RETURNS	139,62%
AVE. DAILY RETURNS	0,49%
MAX DAILY %	2,05%
MIN. DAILY %	-1,30%
LAST DAILY %	0,74%
ANNUAL RFR %	6,50%
MONTLY RFR %	0,22%
MONTLY RFR %	0,01%
<b>STATISTICAL</b>	
INDEX	<a href="#">NIFTY 50</a>
ALPHA	0,4780
BETA	0,2760
SHARPE RATIO	15,66
SORTINO RATIO	40,39
STANDARD DEVIATION	1,49%
VOLATILITY	14,34%
CALMAR RATIO	327,39
TAIL RATIO (BEST WINS / WORST)	4,2188
OMEGA RATIO	11,56
STABILITY %	98,26%
MAX DRAWDOWN %	-1,34%
DAILY VALUE AT RISK %	-0,92%
SKEW	-0,2199
KURTOSIS	0,1015

	Symbol	Quantity	Purchase Price	Current Price	Purchased Value	Last Value	P/L	End PF %	New Transaction	Qty	
1	KEERTI.NS	453	34,45	₹15.605,85	₹15.605,85	0,00%	14,6739	₹12.619,51	366		
2	VAISHALI.NS	70	149,2	₹10.444,00	₹10.514,00	0,67%	9,8861	₹8.502,04	56		
3	VINDHYATEL.NS	5	1706,5	₹1.731,80	₹8.532,50	1,48%	8,1419	₹7.002,01	4		
4	COCHINSHIP.NS	13	630,8	₹626,80	₹8.200,40	₹8.148,40	-0,63%	7,6618	₹6.589,12	10	
5	BLUESTARCO.NS	5	1269,6	₹1.276,65	₹6.348,00	₹6.383,25	0,56%	6,0020	₹5.161,75	4	
6	THEMISMED.NS	5	1224,7	₹1.248,80	₹6.123,50	₹6.244,00	1,97%	5,8711	₹5.049,15	4	
7	HITECH.NS	7	861,1	₹862,35	₹6.027,70	₹6.036,45	0,15%	5,6760	₹4.881,32	5	
8	ICEMAKE.NS	22	269,4	₹267,40	₹5.926,80	₹5.882,80	-0,74%	5,5315	₹4.757,06	17	
9	WSI.NS	365	15,85	₹5.785,25	₹5.785,25	5,4398	₹4.678,19	295			
10	BLKASHYAP.NS	159	34,5	₹5.485,50	₹5.485,50	5,1579	₹4.435,79	128			
11	SALSTEEL.NS	429	12,7	₹13,30	₹5.448,30	₹5.705,70	4,72%	5,3650	₹4.613,86	346	
12	MBAPL.NS	9	508,55	₹526,05	₹4.576,95	₹4.734,45	3,44%	4,4517	₹3.828,46	7	
13	SHREYANIND.NS	24	158,75	₹159,45	₹3.810,00	₹3.826,80	0,44%	3,5983	₹3.094,50	19	
14	AXISBANK.NS	4	944,6	₹942,40	₹3.778,40	₹3.769,60	-0,23%	3,5445	₹3.048,24	3	
15	JSL.NS	15	223,4	₹221,15	₹3.351,00	₹3.317,25	-1,01%	3,1191	₹2.682,46	12	
16	MASFIN.NS	3	894,95	₹873,05	₹2.684,85	₹2.619,15	-2,45%	2,4627	₹2.117,95	2	
17	GOODLUCK.NS	4	497,15	₹493,05	₹1.988,60	₹1.972,20	-0,82%	1,8544	₹1.594,80	3	
18	KALYANKJIL.NS	14	119,2	₹118,70	₹1.668,80	₹1.661,80	-0,42%	1,5626	₹1.343,80	11	
19											



# EN İYİ PORTFÖY - 3

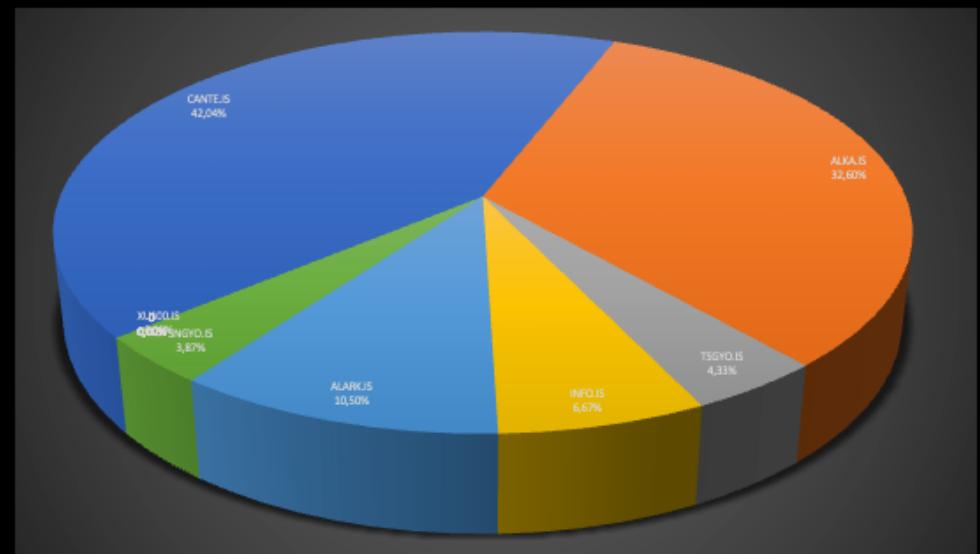
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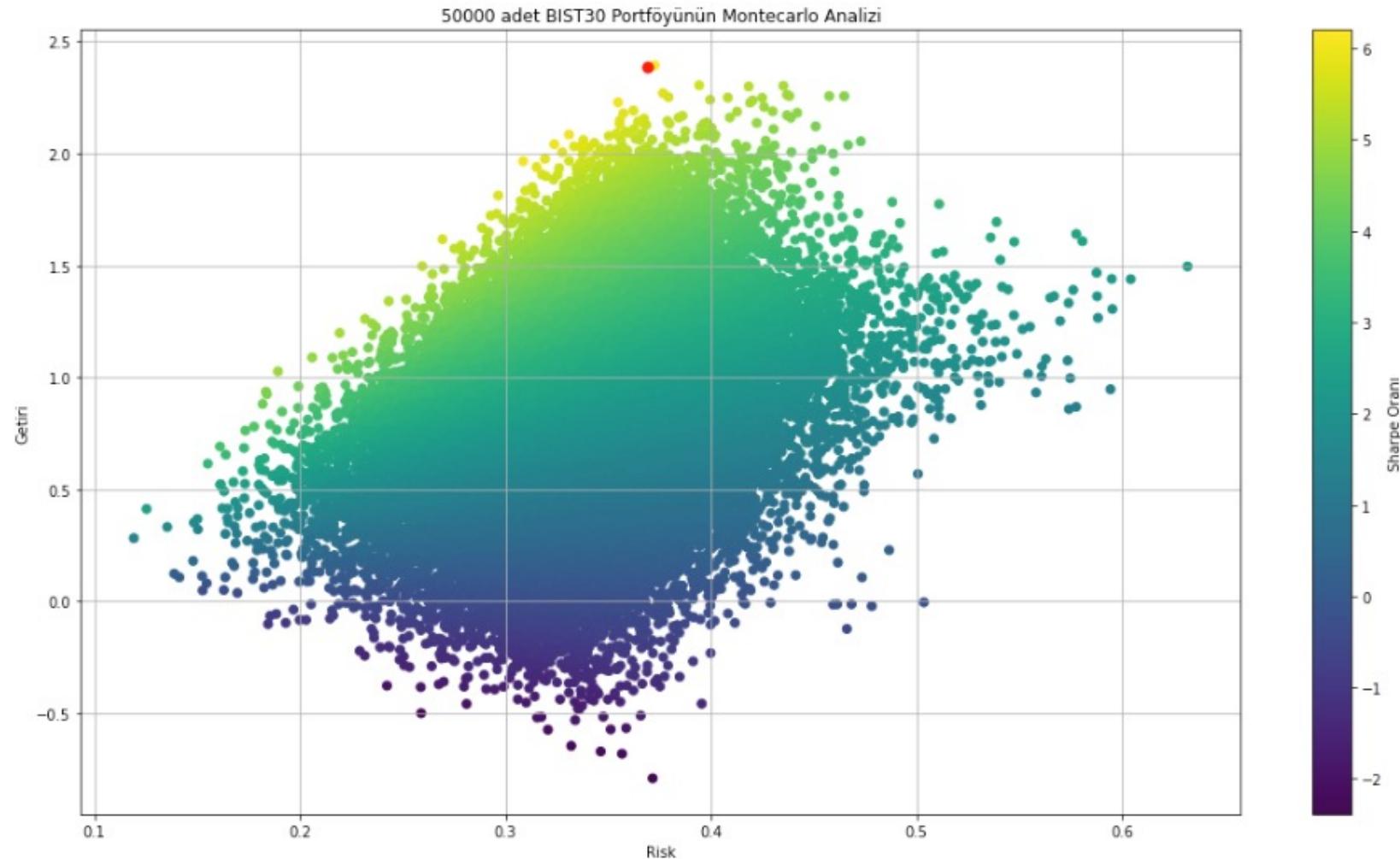
YF PORTFOLIO NAME BIST500\_v541\_HI100\_LOO\_BK140D-FW0D-SH12.45-ON2022-10-16

PORTFOLIO GENERAL		RETURNS %		STATISTICAL	
PF INDEX (OF 1.0)	3,0644	ANNUALIZED RETUR	776,50%	INDEX	XU100
PERIOD RETURNS	₺184.191,97	PERIOD RETURNS	206,44%	ALPHA	0,0787
AVE. DAILY RETURNS	₺1.427,84	AVE. DAILY RETURN	0,89%	BETA	0,3638
PREDICTED MONTHLY INCC	₺28.556,89	MAX DAILY %	5,82%	SHARPE RATIO	7,23
DIVERSIFICATION	6	MIN. DAILY %	-4,41%	SORTINO RATIO	14,82
PERIOD PF START VALUE	₺89.224,38	LAST DAILY %	0,57%	STANDARD DEVIATION	2,73%
PERIOD PF TODAY VALUE	₺273.416,35	ANNUAL RFR %	16,77%	VOLATILITY	31,02%
PERIOD PF MAX VALUE	₺277.863,02	MONTHLY RFR %	0,56%	CALMAR RATIO	110,64
PERIOD PF MIN VALUE	₺89.224,38	MONTHLY RFR %	0,03%	TAIL RATIO (BEST WINS / WORS)	1.4514
PERIOD START DATE	28.04.2022	<b>MIGRATION-REBALANCE</b>		OMEGA RATIO	3,36
PERIOD END DATE	7.11.2022	New Transaction	₺ 87.599,60	STABILITY %	96,31%
PERIOD TRADE DAYS	129	Transaction Type	BUY	MAX DRAWDOWN %	-7,02%
PERIOD UPDAYS	90			DAILY VALUE AT RISK %	-3,02%
PERIOD DOWNDAYS	39			SKEW	-0,0441
PERIOD HIT RATIO %	69,8%			KURTOSIS	0,2874
Realized Start PF Value	₺89.224,38				
Realized End PF Value	₺273.416,35				
Realized P/F	206,44%				

Symbol	Quantity	Purchase Price	Current Price	Purchased Value	Last Value	P/L	End PF %	New Transaction	Qty
1 CANTE.IS	789	30,06	₺145,70	₺23.717,34	₺114.957,30	384,70%	42,0448	₺36.831,06	252
2 ALKA.IS	2338	8,17	₺38,12	₺19.101,46	₺89.124,56	366,59%	32,5967	₺28.554,54	749
3 TSGYO.IS	2429	7,01	₺4,87	₺17.027,29	₺11.829,23	-30,53%	4,3265	₺3.789,95	778
4 INFO.IS	2142	5,44	₺8,51	₺11.652,48	₺18.228,42	56,43%	6,6669	₺5.840,19	686
5 ALARK.IS	367	25,72	₺78,20	₺9.439,24	₺28.699,40	204,04%	10,4966	₺9.194,97	117
6 SNGYO.IS	1734	4,58	₺6,10	₺7.941,72	₺10.577,40	33,19%	3,8686	₺3.388,89	555
7 XU100.IS	0,00001	3000	₺4.331,66	₺0,03	₺0,04	44,39%	0,0000	₺0,02	
8									



# 1000 Portföy



# GİRİŞ-ÇIKIŞ SİNYAL ÜRETİMİ

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# Aynı sektördeki hisselerin ellenmesi

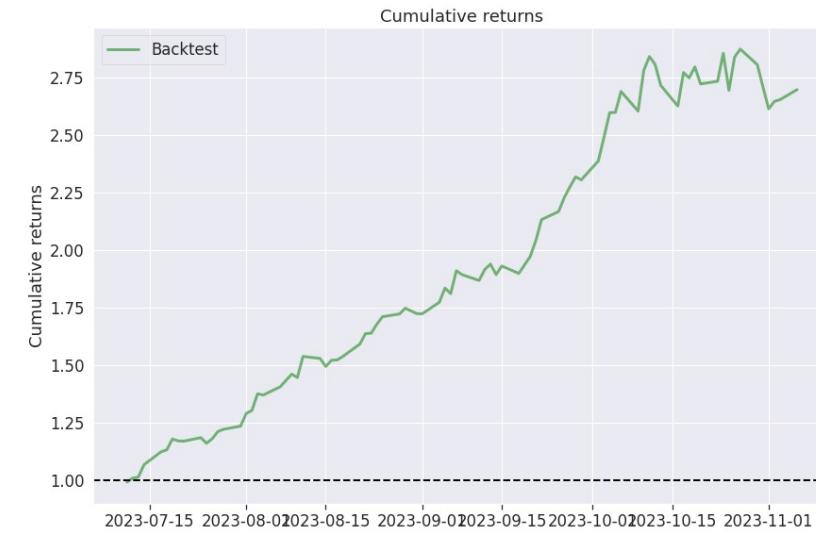
# 1000Portfolios



# 1000Portföy

KATEGORİ	GOLD	PLATINUM	VIP	EXCLUSIVE
Rapor ve Hizmet Bedeli	₺ 249	₺ 449	₺ 1.449	₺ 2.449
Raporda Portföy Analiz ve Yorumu	ÖZET	DETAYLI	DETAYLI	DETAYLI
Giriş Sinyali Sağlama	EVET	EVET	EVET	EVET
Çıkış Sinyali Sağlama	EVET	EVET	EVET	EVET
Minimum Portföy Boyutu	₺ 250.000	₺ 500.000	₺ 1.000.000	₺ 5.000.000
Risk korumalı portföyler	-	-	VAR	VAR
Hisse senetlerinin seçimi	BİZDE	BİZDE	BİRLİKTE	BİRLİKTE
BIST30 hisse veri tabanı	VAR	VAR	VAR	VAR
BIST100 hisse veri tabanı	-	VAR	VAR	VAR
BIST500 hisse veri tabanı	-	-	VAR	VAR
Tüm Yahoo Finance veri tabanı	-	-	-	VAR
Dönem Sonu Komisyon 2023 girişli	kârdan %7	kârdan %7	kârdan %7	kârdan %7
Dönem Sonu Komisyon 2024 girişli	kârdan %9	kârdan %9	kârdan %9	kârdan %9
Minimum Kalma Süresi	90 gün	180 gün	180 gün	180 gün
Cayma Bedeli	Portföy büyüklüğünün %3.5'u			
En iyi portföye kaç simülasyondan varılacak ?	10.000	50.000	250.000	1.000.000

# 1000Portföy

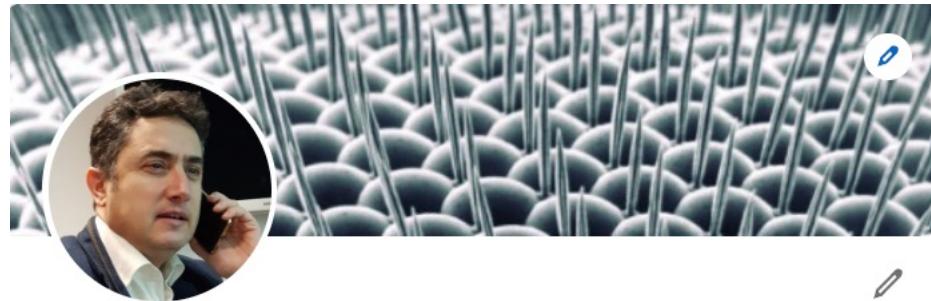


# 1000Portfolios

## AI Based Portfolio Management & Trading Algos Development

### Developer

- EPAT Alumni '22
- PhD in Mat.Sci and Eng.
- WQU MSc in Financial Engineering '24
- Django/Python developer



#### Alper ÜLKÜ

Display Technology Team Leader, Avionics Systems

Çankaya, Ankara, Türkiye · [İletişim bilgileri](#)

262 takipçi · 251 bağlantı



### Developer

- Professor in AI Engineering Department Artificial Intelligence & Computer Engineering Dept., TOBB-ETU University, Ankara
- Worldwide known scholar of AI with H-index: 26
- Area Expert on Machine Learning



#### Murat Özbayoğlu

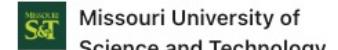
· 1.  
Artificial Intelligence and Computer Engineering at TOBB ETU

Birleşik Devletler · [İletişim bilgileri](#)

2.312 takipçi · 500+ bağlantı



TOBB ETU



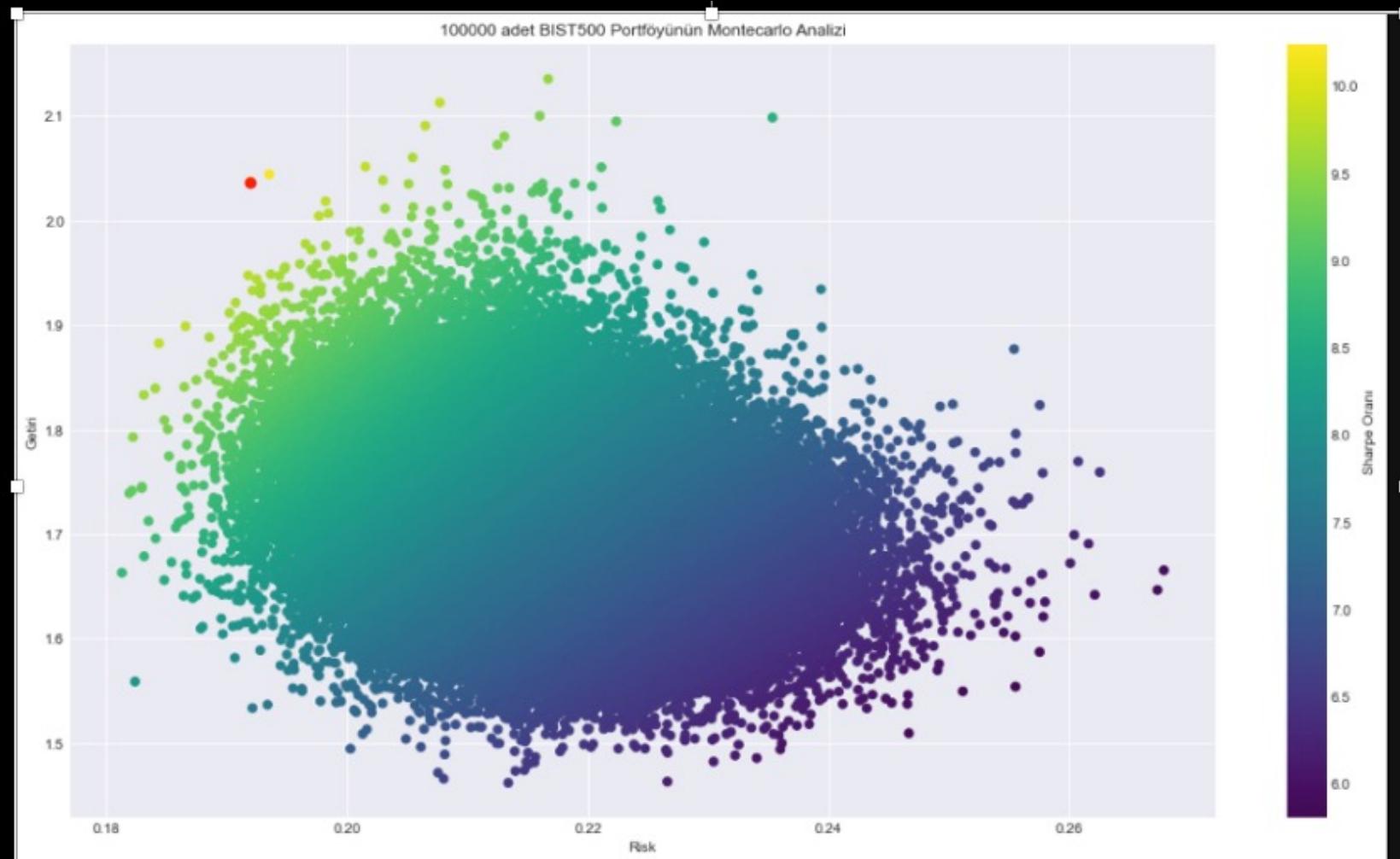
Missouri University of Science and Technology



1000Portfolios

# Montecarlo Analysis of 1000000 possible portfolios

BinPortföy



Markov  
Markowitz

## Analysis of the Best PFs of NSE

<a href="#">NSE_MPT_v525D_BK140D-FW365D-SH120943.03-ST2021-08-09</a>	16	₹390,663.45	+980.15	+0.25%	+124,690.17	+46.88%
<a href="#">NSE_MPT_v525D_BK140D-FW365D-SH8.62-ST2021-08-09</a>	10	₹416,887.35	+361.99	+0.09%	+96,802.98	+30.24%
<a href="#">NSE_MPT_v526D_BK140D-FW365D-SH29.6-ST2021-08-09</a>	31	₹1,401,331.33	+55,933.83	+4.16%	+998,358.24	+247.75%
<a href="#">NSE_v544_HI100_LO0_BK140D-FW0D-SH11.19-ON2022-12-16</a>	18	₹107,384.55	+733.95	+0.69%	+1,598.15	+1.51%

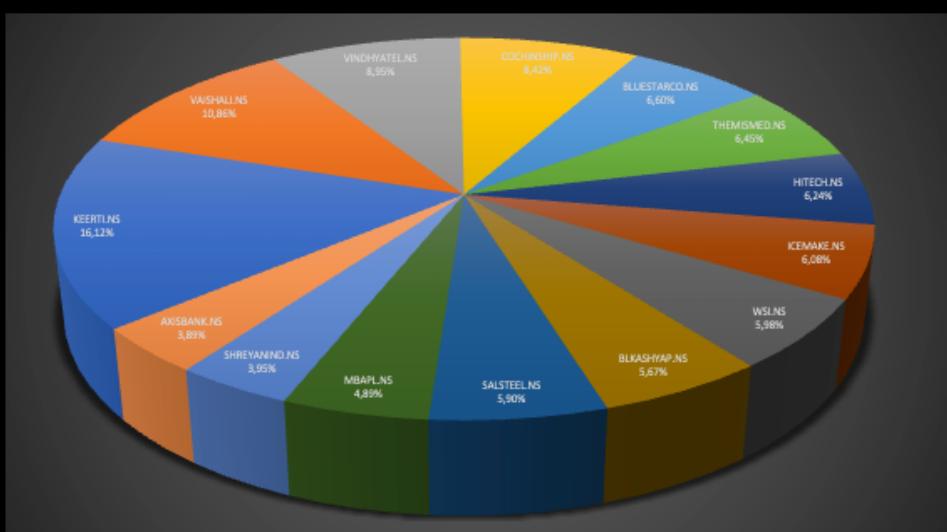
Markov  
Markowitz

# 1000 Portfolios

## Analysis of the Best PFs of NSE



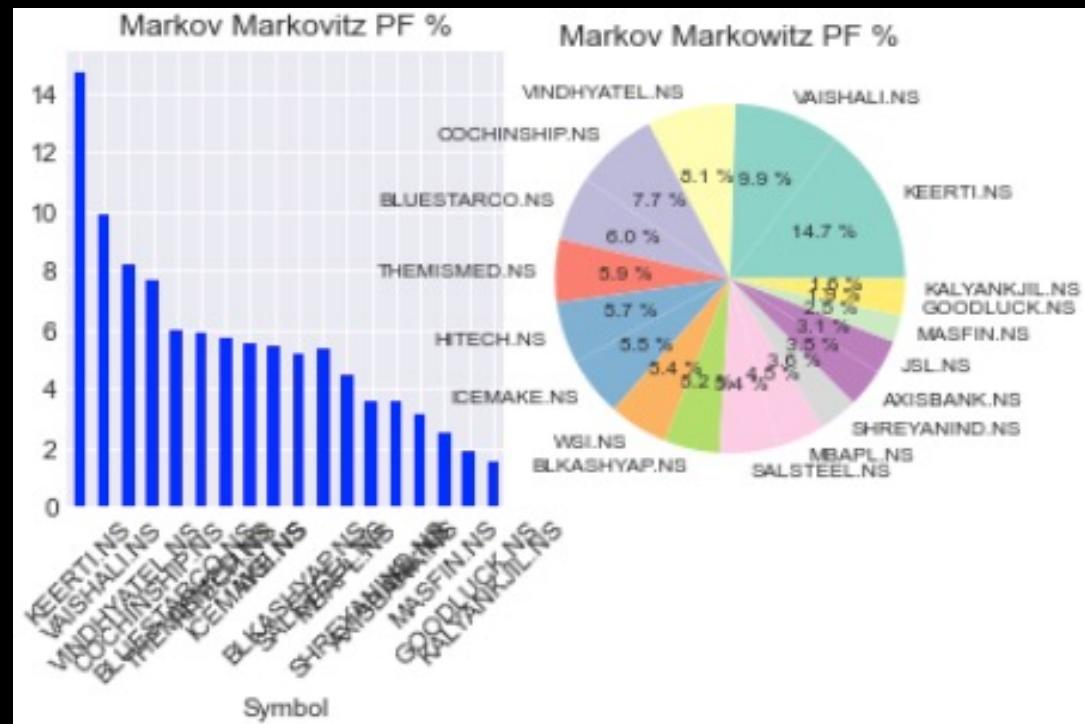
	Symbol	Quantity	Purchase Price	Current Price	Purchased Value	Last Value	P/L	End PF %	New Transaction	Qty	
1	KEERTILNS	453	₹34,45	₹15.605,85	₹15.605,85	0,00%	14,6739	₹12.619,51	366		
2	VAISHALI.NS	70	₹149,2	₹150,20	₹10.444,00	₹10.514,00	0,67%	9,8861	₹8.502,04	56	
3	VINDHYATEL.NS	5	₹1706,5	₹1.731,80	₹8.532,50	₹8.659,00	1,48%	8,1419	₹7.002,01	4	
4	COCHINSHIP.NS	13	₹630,8	₹626,80	₹8.200,40	₹8.148,40	-0,63%	7,6618	₹6.589,12	10	
5	BLUESTARCO.NS	5	₹1269,6	₹1.276,65	₹6.348,00	₹6.383,25	0,56%	6,0020	₹5.161,75	4	
6	THEMISMED.NS	5	₹1224,7	₹1.248,80	₹6.123,50	₹6.244,00	1,97%	5,8711	₹5.049,15	4	
7	HITECH.NS	7	₹861,1	₹862,35	₹6.027,70	₹6.036,45	0,15%	5,6760	₹4.881,32	5	
8	ICEMAKENS	22	₹269,4	₹267,40	₹5.926,80	₹5.882,80	-0,74%	5,5315	₹4.757,06	17	
9	WSI.NS	365	₹15,85	₹15,85	₹5.785,25	₹5.785,25	0,00%	5,4398	₹4.678,19	295	
10	BLKASHYAP.NS	159	₹34,5	₹34,50	₹5.485,50	₹5.485,50	0,00%	5,1579	₹4.435,79	128	
11	SALSTEEL.NS	429	₹12,7	₹13,30	₹5.448,30	₹5.705,70	4,72%	5,3650	₹4.613,86	346	
12	MBAPL.NS	9	₹508,55	₹526,05	₹4.576,95	₹4.734,45	3,44%	4,4517	₹3.828,46	7	
13	SHREYANIND.NS	24	₹158,75	₹159,45	₹3.810,00	₹3.826,80	0,44%	3,5983	₹3.094,50	19	
14	AXISBANK.NS	4	₹944,6	₹942,40	₹3.778,40	₹3.769,60	-0,23%	3,5445	₹3.048,24	3	
15	JSL.NS	15	₹223,4	₹221,15	₹3.351,00	₹3.317,25	-1,01%	3,1191	₹2.682,46	12	
16	MASFIN.NS	3	₹894,95	₹873,05	₹2.684,85	₹2.619,15	-2,45%	2,4627	₹2.117,95	2	
17	GOODLUCK.NS	4	₹497,15	₹493,05	₹1.988,60	₹1.972,20	-0,82%	1,8544	₹1.594,80	3	
18	KALYANKJIL.NS	14	₹119,2	₹118,70	₹1.668,80	₹1.661,80	-0,42%	1,5626	₹1.343,80	11	
19											



# Analysis of the Best PF variations of NSE

1000 Portfolios

[74]:		%	Amount in 100000 INR
KEERTI.NS	453	14.890	14,890.000
COCHINSHIP.NS	13	8.900	8,900.000
VAISHALI.NS	70	7.080	7,080.000
VINDHYATEL.NS	5	7.000	7,000.000
BLUESTARCO.NS	5	6.930	6,930.000
ICEMAKE.NS	22	6.610	6,610.000
WSI.NS	365	5.520	5,520.000
SALSTEEL.NS	429	5.480	5,480.000
HITECH.NS	7	5.020	5,020.000
THEMISMED.NS	5	4.790	4,790.000
MBAPL.NS	9	4.550	4,550.000
BLKASHYAP.NS	159	4.460	4,460.000
SHREYANIND.NS	24	3.840	3,840.000
AXISBANK.NS	4	3.460	3,460.000
MASFIN.NS	3	3.370	3,370.000
JSL.NS	15	2.510	2,510.000
GOODLUCK.NS	4	1.880	1,880.000
KALYANKJIL.NS	14	1.550	1,550.000



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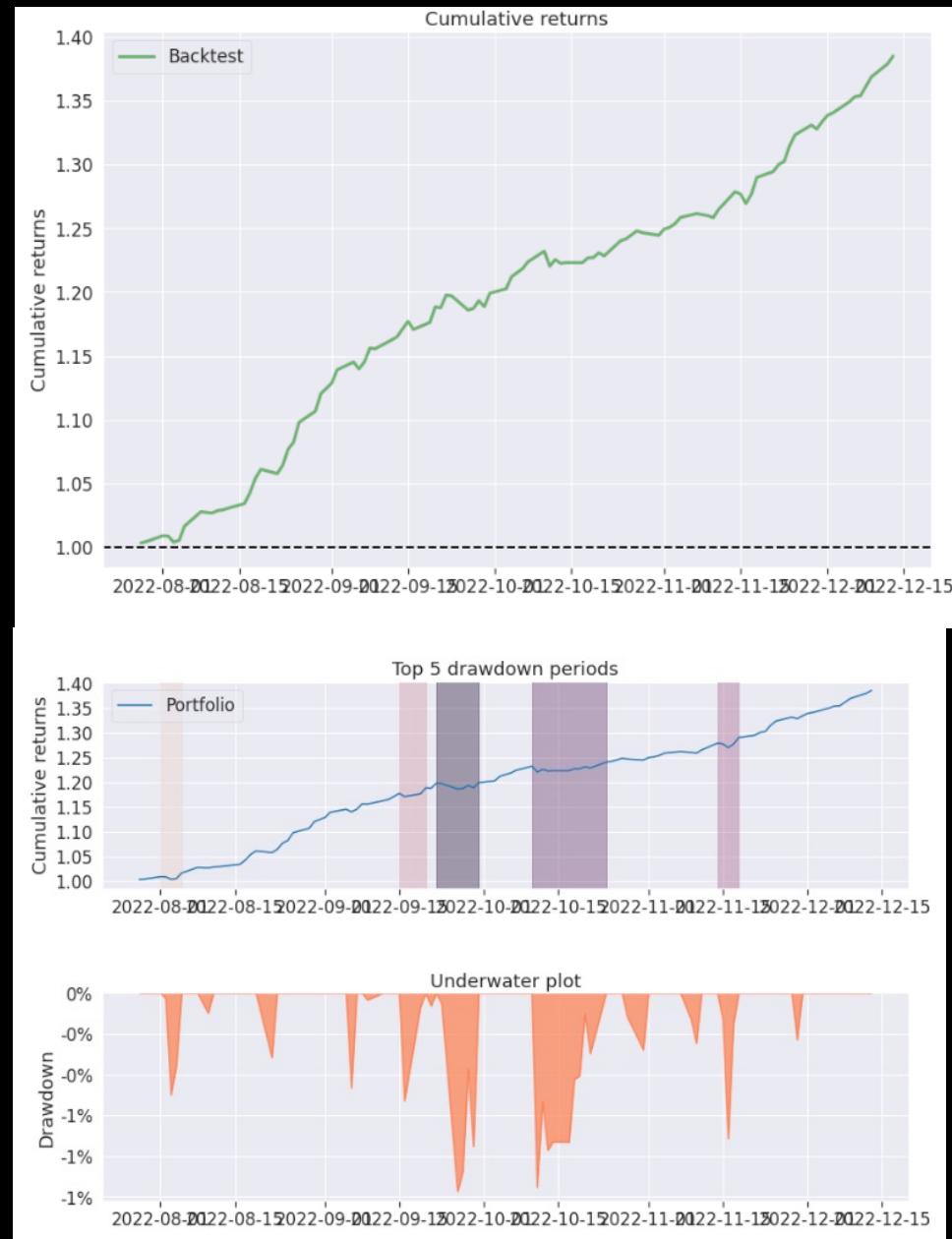
# 1000Portfolios

## Analysis of the Best PFs of NSE

<b>Start date</b>	2022-07-28																																				
<b>End date</b>	2022-12-13																																				
<b>Total months</b>	4																																				
<b>Backtest</b>																																					
<b>Annual return</b>	141.713%																																				
<b>Cumulative returns</b>	38.502%																																				
<b>Annual volatility</b>	7.559%																																				
<b>Sharpe ratio</b>	11.73																																				
<b>Calmar ratio</b>	145.74																																				
<b>Stability</b>	0.95																																				
<b>Max drawdown</b>	-0.972%																																				
<b>Omega ratio</b>	6.26																																				
<b>Sortino ratio</b>	29.59																																				
<b>Skew</b>	-0.28																																				
<b>Kurtosis</b>	0.01																																				
<b>Tail ratio</b>	2.34																																				
<b>Daily value at risk</b>	-0.6%																																				
<table> <thead> <tr> <th>Worst drawdown periods</th> <th>Net drawdown in %</th> <th>Peak date</th> <th>Valley date</th> <th>Recovery date</th> <th>Duration</th> </tr> </thead> <tbody> <tr> <td>0</td><td>0.97</td><td>2022-09-22</td><td>2022-09-26</td><td>2022-09-30</td><td>7</td></tr> <tr> <td>1</td><td>0.95</td><td>2022-10-10</td><td>2022-10-11</td><td>2022-10-24</td><td>11</td></tr> <tr> <td>2</td><td>0.72</td><td>2022-11-14</td><td>2022-11-16</td><td>2022-11-18</td><td>5</td></tr> <tr> <td>3</td><td>0.53</td><td>2022-09-15</td><td>2022-09-16</td><td>2022-09-20</td><td>4</td></tr> <tr> <td>4</td><td>0.50</td><td>2022-08-01</td><td>2022-08-03</td><td>2022-08-05</td><td>5</td></tr> </tbody> </table>		Worst drawdown periods	Net drawdown in %	Peak date	Valley date	Recovery date	Duration	0	0.97	2022-09-22	2022-09-26	2022-09-30	7	1	0.95	2022-10-10	2022-10-11	2022-10-24	11	2	0.72	2022-11-14	2022-11-16	2022-11-18	5	3	0.53	2022-09-15	2022-09-16	2022-09-20	4	4	0.50	2022-08-01	2022-08-03	2022-08-05	5
Worst drawdown periods	Net drawdown in %	Peak date	Valley date	Recovery date	Duration																																
0	0.97	2022-09-22	2022-09-26	2022-09-30	7																																
1	0.95	2022-10-10	2022-10-11	2022-10-24	11																																
2	0.72	2022-11-14	2022-11-16	2022-11-18	5																																
3	0.53	2022-09-15	2022-09-16	2022-09-20	4																																
4	0.50	2022-08-01	2022-08-03	2022-08-05	5																																
***** end of TEARSHEET *****																																					

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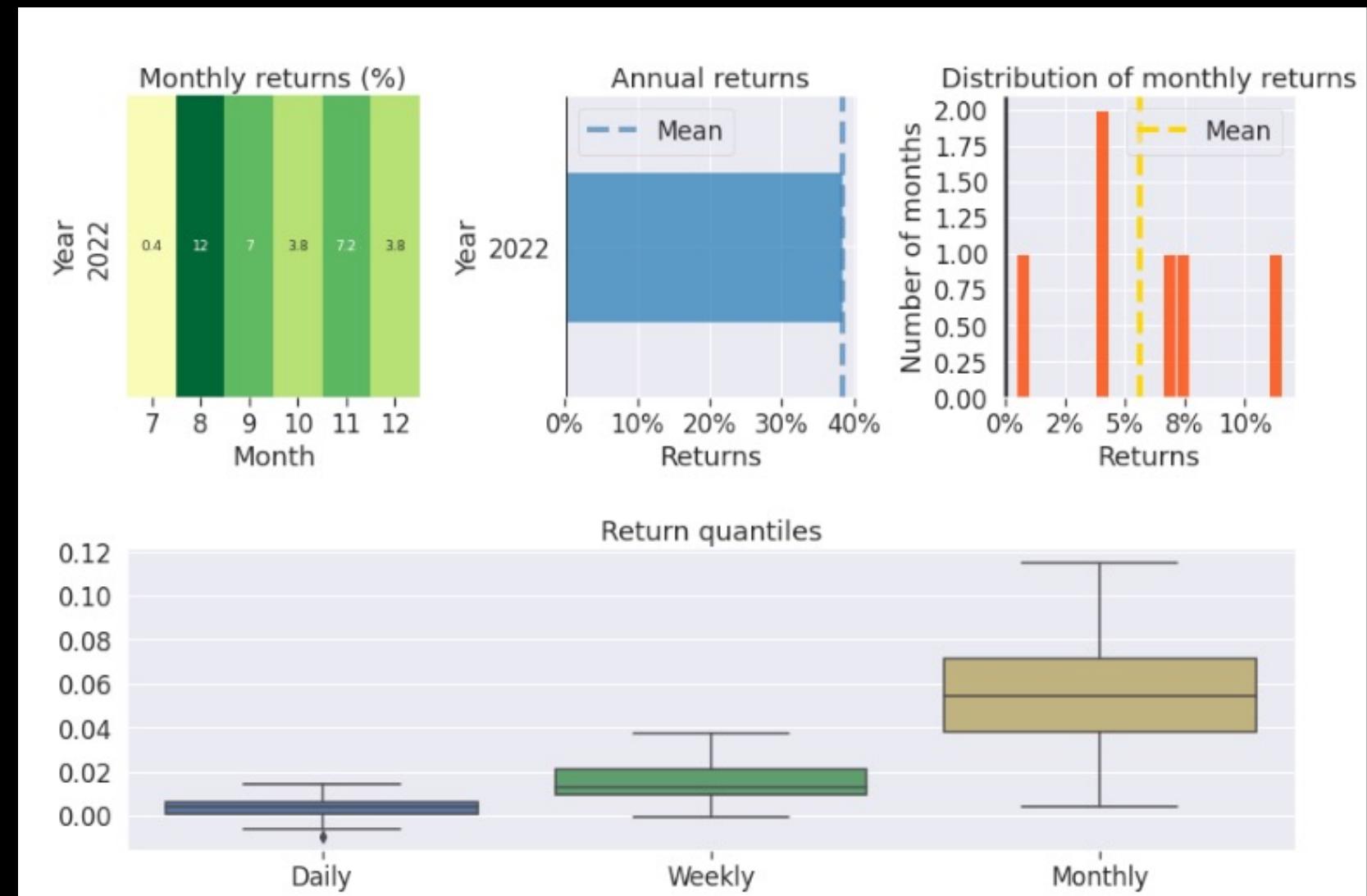
## Analysis of the Best PFs of NSE



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# 1000Portfolios

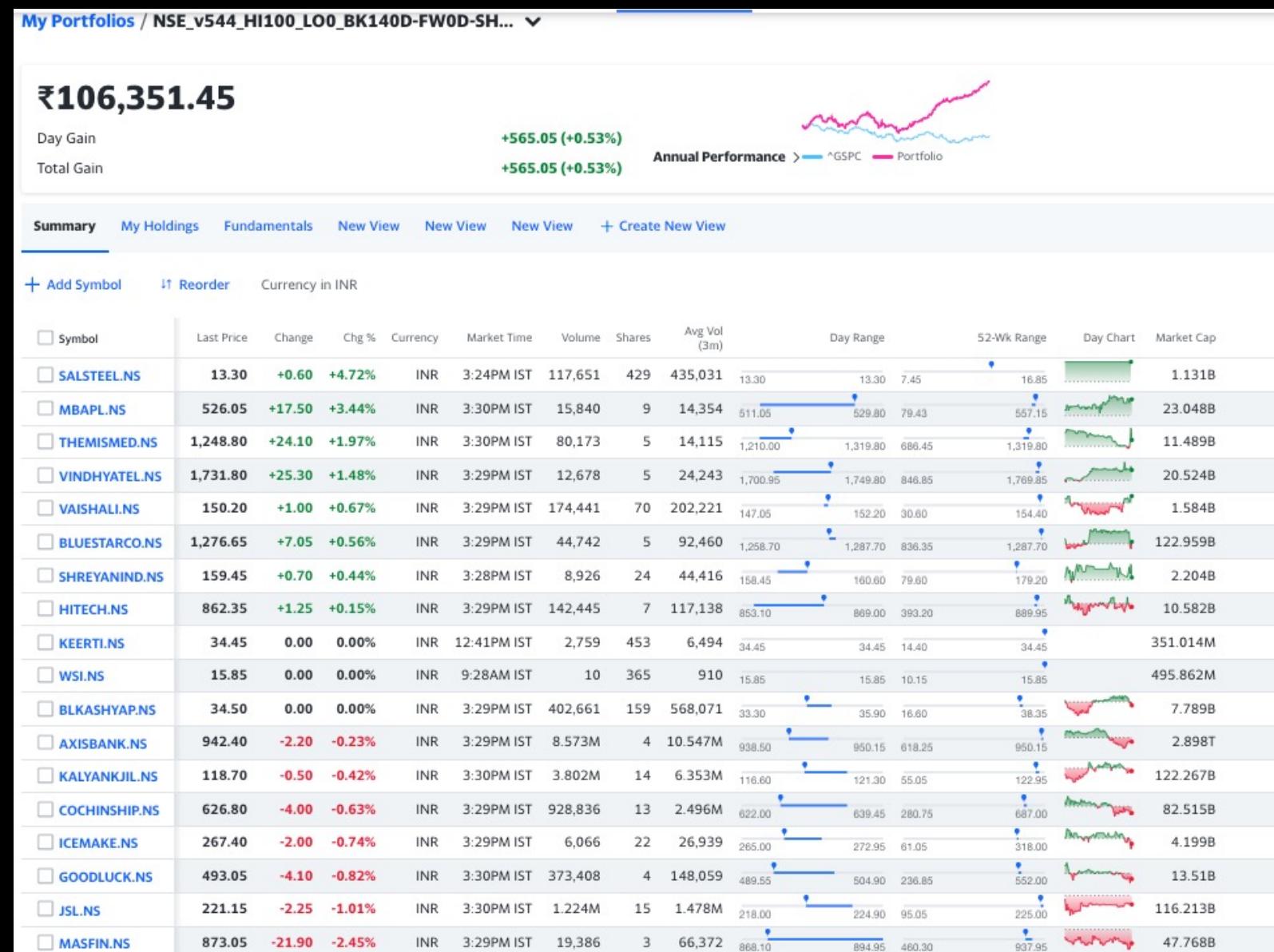
## Analysis of the Best PFs of NSE



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# 1000 Portfolios

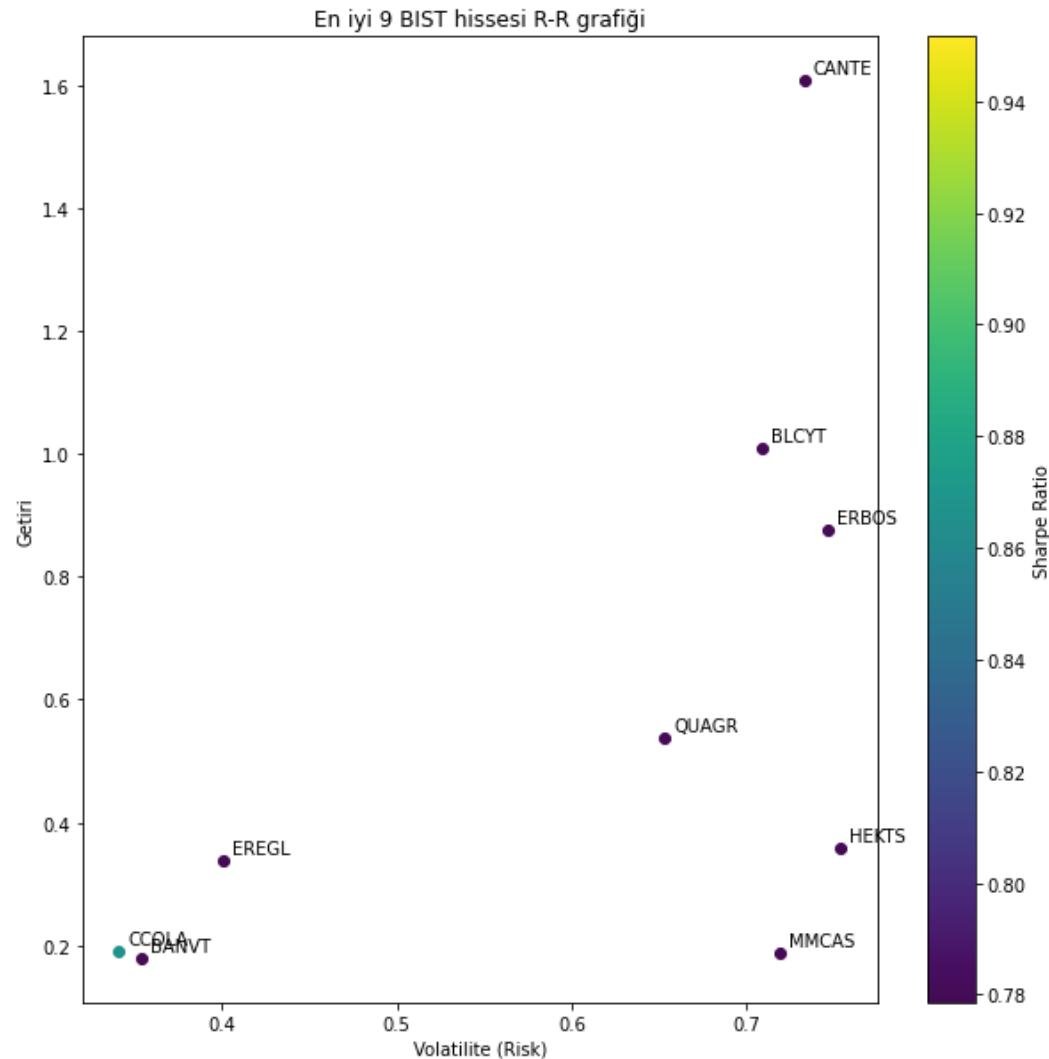
## Analysis of the Best PFs of NSE



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PREMIUM mode:

Critical Output: Risk-vs-Returns Map

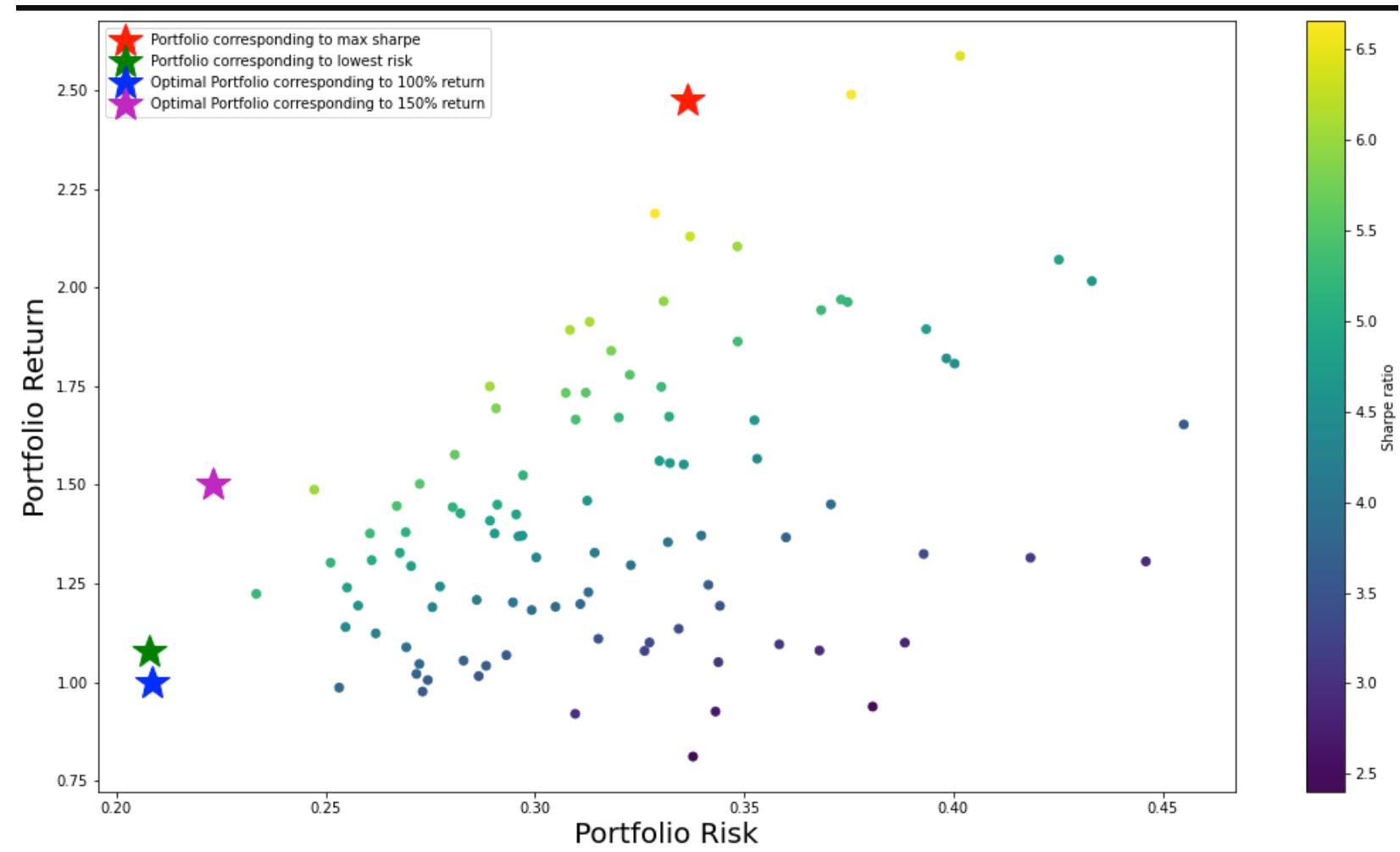


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PREMIUM mode:

Critical Output: PF Position on the R-R Map

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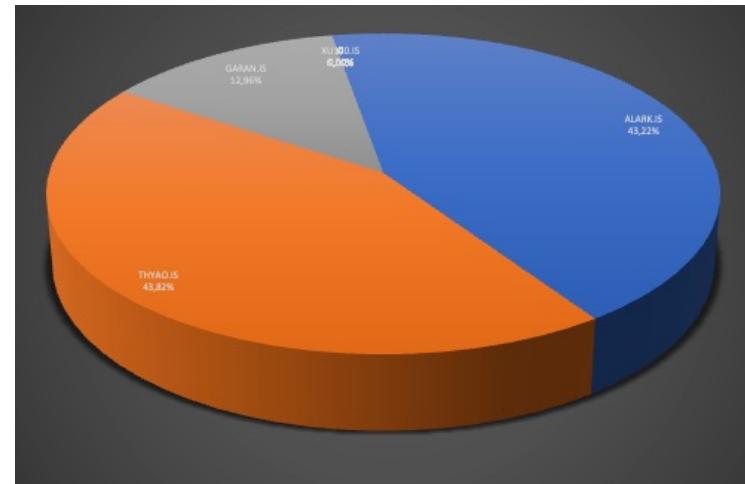
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# PREMIUM mode: Critical Output

## “Model Portfolio” Performance Report

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PORTFOLIO NAME	AU_BIST500_v532_HI2.5_L00.0_BK140D-FW30D-SH8.68-ON2022-08-04_VARIANT	RETURNS %	STATISTICAL
PORTFOLIO GENERAL			
PF INDEX (OF 1.0)	1,1462	ANNUALIZED RETURN	510,94%
PERIOD RETURNS	€72.897,88	PERIOD RETURNS	14,62%
AVE. DAILY RETURNS	€4.049,88	AVE. DAILY RETURNS	0,77%
NUMBER OF ASSETS	4	MAX DAILY %	3,01%
PF START VALUE	€498.609,06	MIN. DAILY %	-2,27%
PF TODAY VALUE	€571.506,94	LAST DAILY %	-1,50%
START DATE	22.08.2022	ANNUAL RFR %	16,77%
END DATE	16.09.2022	MONTLY RFR %	0,56%
		MONTLY RFR %	0,03%
TRADE DAYS	18		
UPDAYS	12	<b>Migration-Rebalance</b>	
DOWNDAYS	6	New Transaction	€ 20.000,00
HITRATIO %	66,7%	Transaction Type	SELL
			<u>INDEX</u>
			XU100
			<u>ALPHA</u>
			0,0210
			<u>BETA</u>
			0,7400
			<u>SHARPE RATIO</u>
			8,01
			<u>SORTINO RATIO</u>
			17,17
			<u>STANDARD DEVIATION</u>
			1,53%
			<u>VOLATILITY</u>
			24,29%
			<u>CALMAR RATIO</u>
			224,81
			<u>TAIL RATIO (BEST WINS / WORST LOSS)</u>
			1,7595
			<u>OMEGA RATIO</u>
			3,30
			<u>STABILITY</u>
			88,34%
			<u>MAX DRAWDOWN %</u>
			2,27%
			<u>DAILY VALUE AT RISK</u>
			-2,29%
			<u>SKEW</u>
			-0,3721
			<u>KURTOSIS</u>
			-0,6997



Markov  
Markowitz

PREMIUM mode: Critical Output

Input Criteria for Ideal PF

1000Portfolios

IDEAL PF CRITERIA	
EXCHANGE	BIST500
DATA SOURCE	YAHOO FINANCE
DATA FREQUENCY	1D
OHLC TYPE	ADJUSTED CLOSE
RISK FREE RATE (YEARLY)	18,50%
SHARPE RATIO LOW LIMIT	10,00
SHARPE RATIO HIGH LIMIT	45,00
STANDARD DEVIATION UPPER LIMIT	3,00%
STANDARD DEVIATION LOWER LIMIT	0,50%
MAX DRAWDOWN UPPER LIMIT	4,00%
MAX NUMBER OF ASSETS	100
PF START VALUE	€648.000,00
CURRENCY	TL
START DATE	24.08.2021
END DATE	21.09.2022
BACKTEST (IN-SAMPLE) PERIOD (DAYS)	140
OUT OF SAMPLE TEST PERIOD (DAYS)	365
MONTE CARLO CASES	1000000

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PREMIUM mode:

Critical Output: Advisory for Migration to Next Ideal PF

BinPortföy

**MIGRATION CRITERIA (MANUAL OR AI)**

1. IF PRESENT PF SHOWS BETTER PERFORMANCE THAN IDEAL PF, DO NOT MIGRATE
2. IF PRESENT PF AND IDEAL PF SHOW SIMILAR GRAPHICAL PERFORMANCE, DO NOT MIGRATE
3. IF IDEAL PF SHOWS %15 BETTER PERFORMANCE THAN PRESENT PF AND P/L > %10, MIGRATE
4. IF IDEAL PF SHOWS %15 BETTER PERFORMANCE THAN PRESENT PF AND P/L < %10, WAIT UNTIL #3 IS SATISFIED
5. NEVER BUY-SELL ASSETS INDIVIDUALLY, SO THAT WEIGHTS IN END PF% COLUMN SHOULD NOT CHANGE
6. IF CRISIS HAPPENS: CHECK MDD, IF LAST DAILY LOSS > MDD ABANDON ALL PF NEXT DAY EARLY MORNING, MIGRATE WITH FWTEST=0
7. IF ONE OF THE PORTFOLIO COMPONENTS OF IDEAL PF, HAS A WEIGHT MORE THAN %40 DO NOT MIGRATE

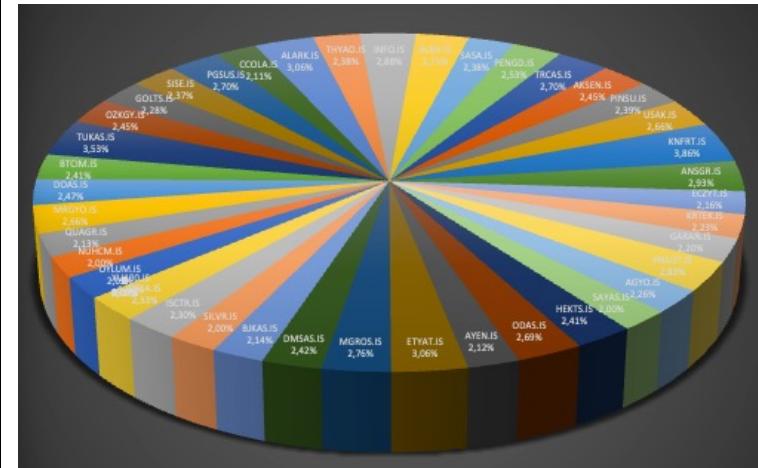
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PREMIUM mode:

Critical Output: “What-If” or “Model” Performance Reporting



PORTFOLIO NAME <u>BIST500_v536_HI2.5_LOO.0_BK140D-FW30D-SH7.97-ON2022-08-14</u>			
PORTFOLIO GENERAL		RETURNS %	STATISTICAL
PF INDEX (OF 1.0)	1,0669	ANNUALIZED RETURN	126,23% <u>INDEX</u> XU100
PERIOD RETURNS	€33.375,24	PERIOD RETURNS	6,69% <u>ALPHA</u> 0,0534
AVE. DAILY RETURNS	€1.756,59	AVE. DAILY RETURNS	0,36% <u>BETA</u> 0,3270
NUMBER OF ASSETS	41	MAX DAILY %	2,45% <u>SHARPE RATIO</u> 3,27
PF START VALUE	€498.609,06	MIN. DAILY %	-4,75% <u>SORTINO RATIO</u> 4,51
PF TODAY VALUE	€531.984,30	LAST DAILY %	-2,51% <u>STANDARD DEVIATION</u> 1,73%
START DATE	22.08.2022	ANNUAL RFR %	16,77% <u>VOLATILITY</u> 27,46%
END DATE	19.09.2022	MONTLY RFR %	0,56% <u>CALMAR RATIO</u> 26,57
		MONTLY RFR %	0,03% <u>TAIL RATIO (BEST WINS / WORST LOSS)</u> 0,8934
TRADE DAYS	19		<u>OMEGA RATIO</u> 1,74
UPDAYS	12	<b>Migration-Rebalance</b>	<u>STABILITY %</u> 77,41%
DOWNDAYS	7	New Transaction & 20.000,00	<u>MAX DRAWDOWN %</u> 4,75%
HIT RATIO %	63,2%	Transaction Type SELL	<u>DAILY VALUE AT RISK %</u> -3,10%
			<u>SKew</u> -1,5798
			<u>KURTOSIS</u> 3,3771

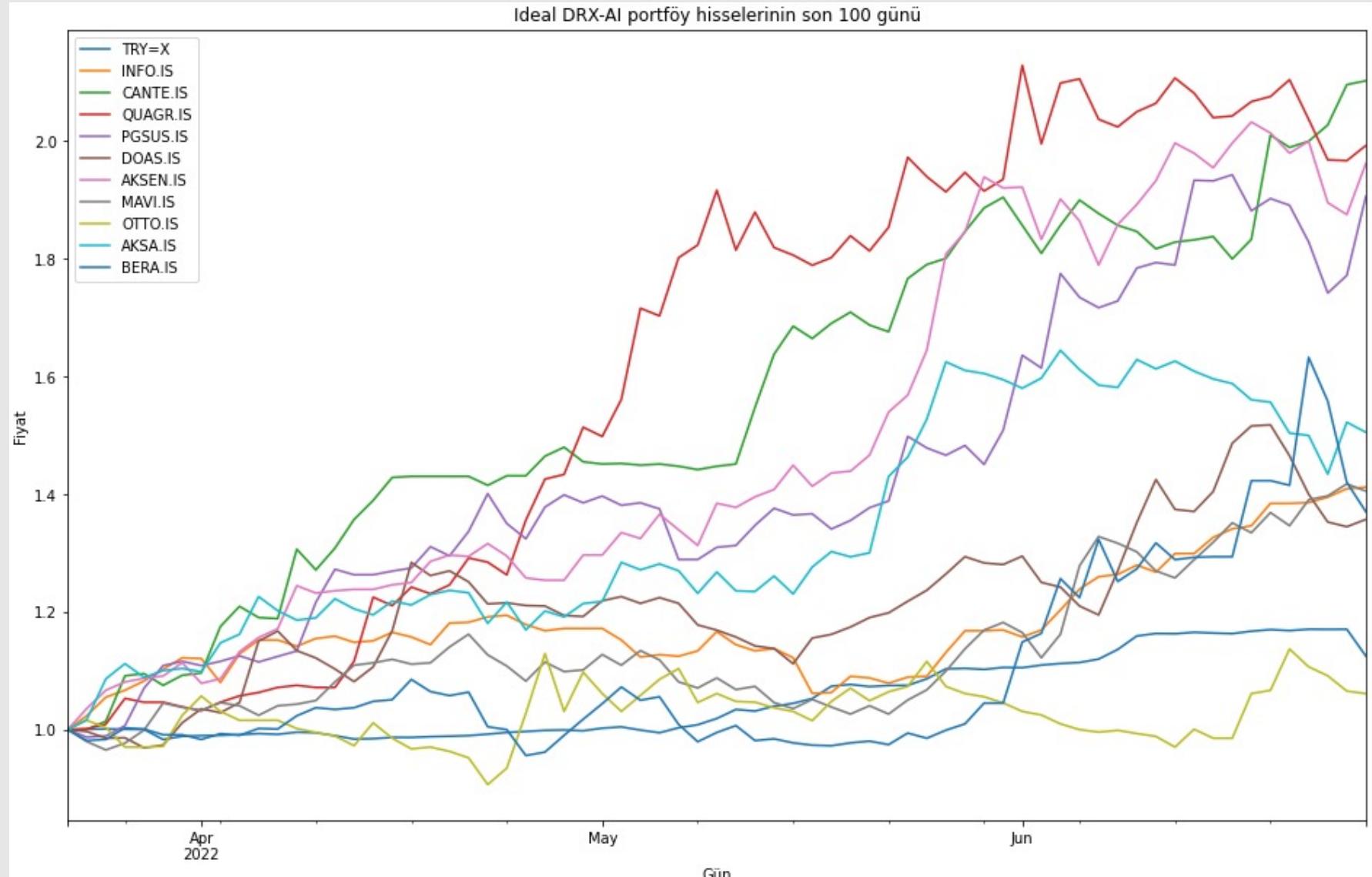


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Markowitz

# Assets on the Portfolio

BinPortföy

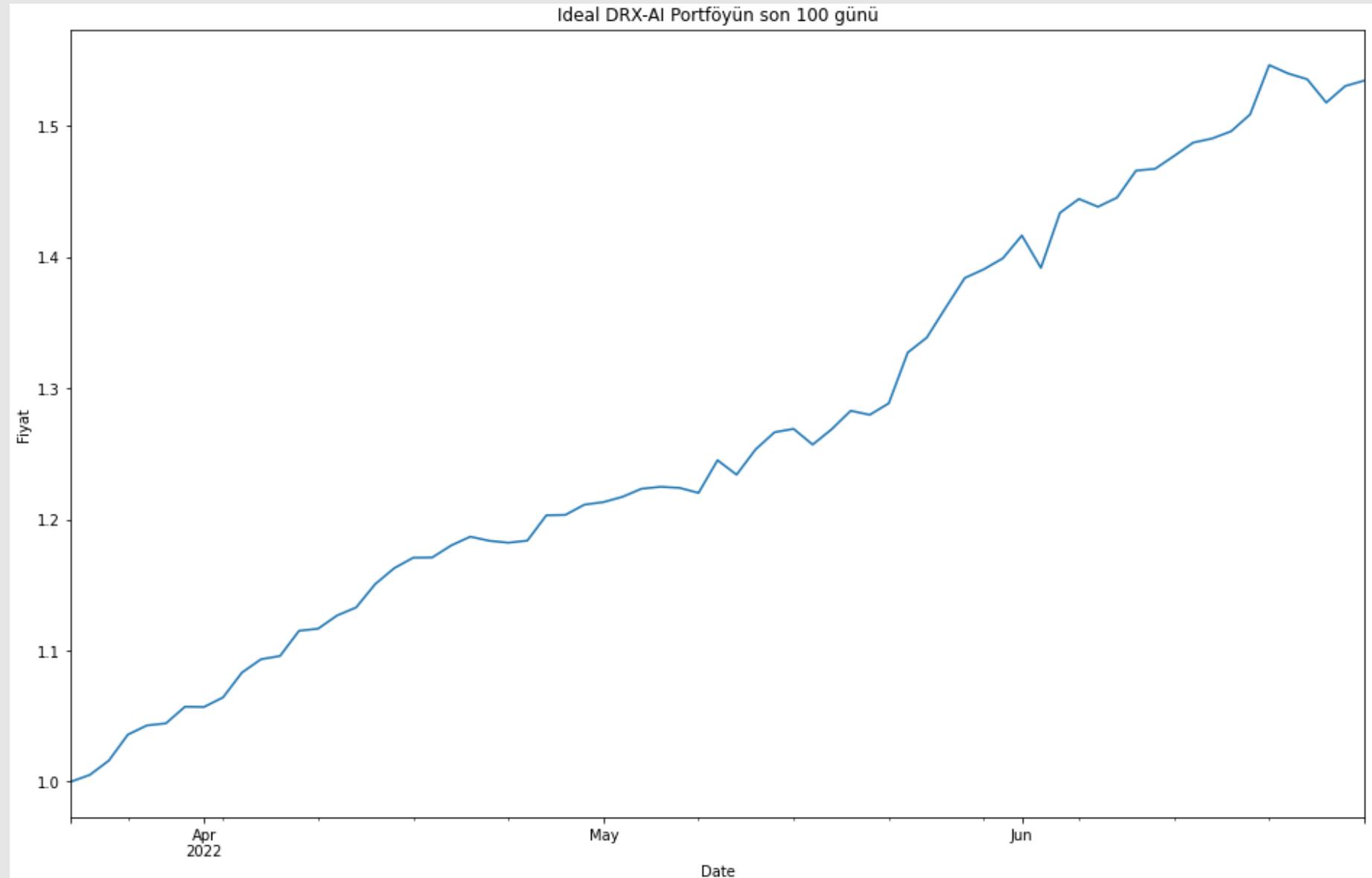
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Markowitz



# PREMIUM mode: MM Ideal Portfolio

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# A Special Investigation for Exit Advisory: Markov Chain Modeling and Estimation for Pairs Trading

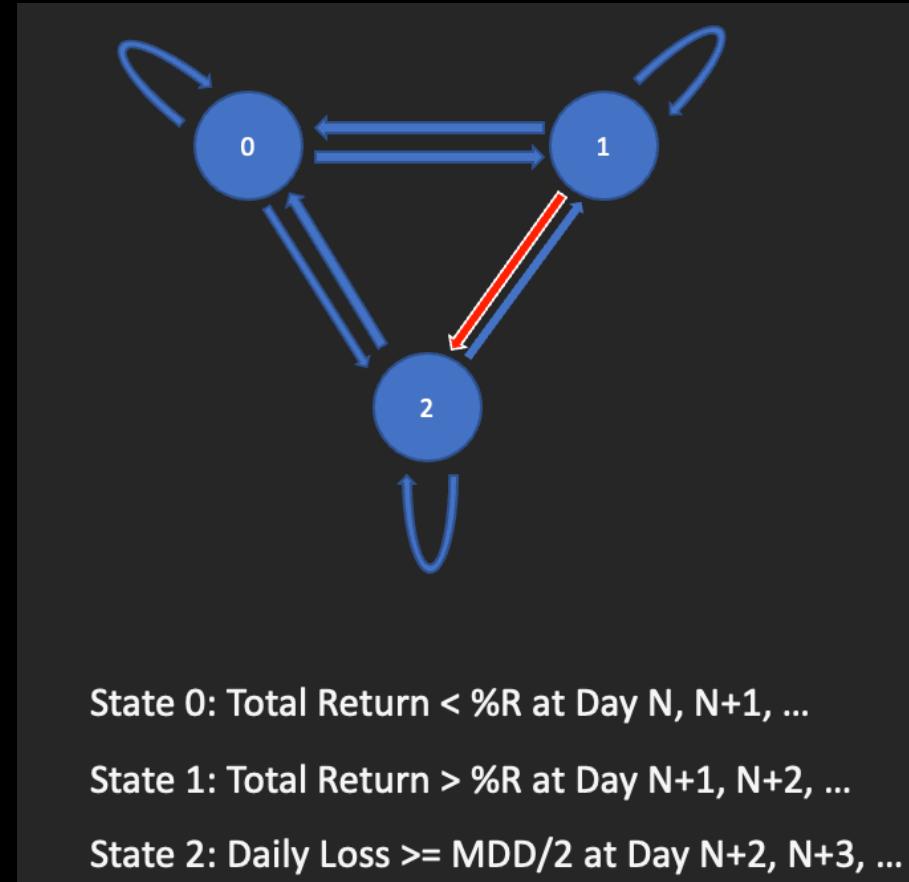
AlgoQwin

- The initial hidden state has a normal distribution:  $x_0 \sim \mathcal{N}(\mu_0, \Sigma_0)$  with `initial_state_mean`,  $\mu$  and `initial_state_covariance`,  $\Sigma$ .
- The hidden state  $x_{t+1}$  is an affine transformation of  $x_t$  with `transition_matrix`  $A$ , `transition_offset`  $b$ , and added Gaussian noise with `transition_covariance`  $Q$ :  $x_{t+1} = A_t x_t + b_t + \epsilon_{t+1}^1, \quad \epsilon_t^1 \sim \mathcal{N}(0, Q)$ .
- The observation  $z_t$  is an affine transformation of the hidden state  $x_t$  with `observation_matrix`  $C$ , `observation_offset`  $d$ , and added Gaussian noise with `observation_covariance`  $R$ :  $z_t = C_t x_t + d_t + \epsilon_t^2, \quad \epsilon_t^2 \sim \mathcal{N}(0, R)$ .

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Markowitz

# Probability Estimation of the "Collapse" State (Determination of the "Sell-All Day")

AlgoQwin



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DISCUSSION & Q/A