Extra Credit
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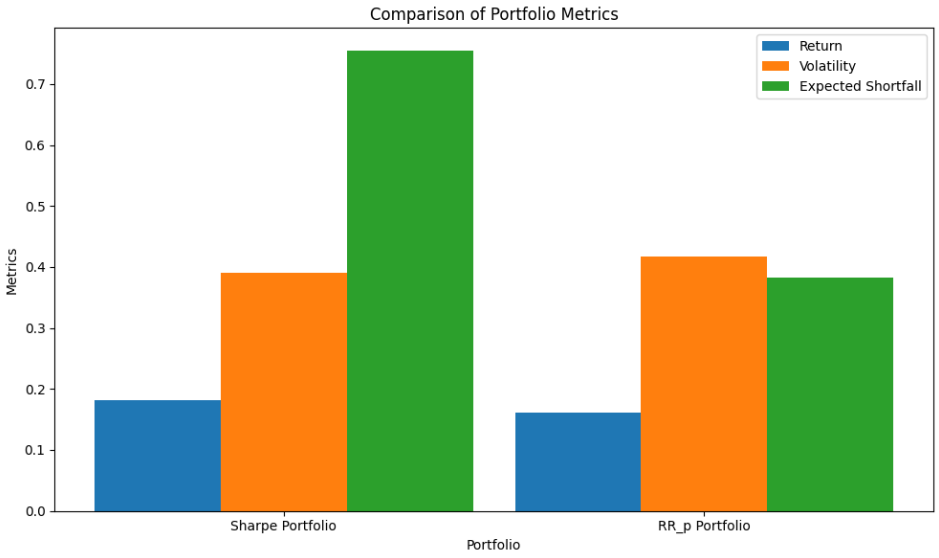
1. The weights of the maxim Sharpe Ratio portfolio are [0.15202905, -0.13302031, 0.98099126].
2. Using the new metric RR_p, the weights are [0.33005597, 0.04734918, 0.62259485].
3. We can compare these two metrics in the three types of risk metrics:



- Return: Sharpe Ratio Portfolio achieves a higher annualized return of 18.21% compared to 16.04% for the RR_p Portfolio.
- Volatility: Sharpe Ratio Portfolio has slightly lower volatility (39.10%) compared to the RR_p Portfolio.
- Expected Shortfall (ES): the RR_p Portfolio achieves a significantly lower Expected Shortfall (38.32%) than the Sharpe Ratio Portfolio (75.44%), indicating better resilience to extreme market conditions.

	Sharpe Ratio	**RR_p**
Sharpe Ratio Portfolio	0.3441358788622815	0.1783710910676843
RR_p Portfolio	0.2702153386270598	0.2946022357508656

Sharpe Ratio Portfolio offers higher returns but at the cost of increased vulnerability to extreme losses, as seen in the higher Expected Shortfall. It is Suitable for investors who prioritize maximizing returns relative to overall volatility.

While **the RR_p Portfolio** balances return and risk more effectively under extreme market conditions, making it more suitable for risk-averse investors or those focused on minimizing downside exposure.

Conclusion: The Sharpe Ratio Portfolio is better for general risk-return optimization but may be unsuitable in scenarios with significant tail risks. The RRp Portfolio provides better protection against extreme losses, offering a more conservative but robust option for risk management.