aiα(*efficient*-frontier)

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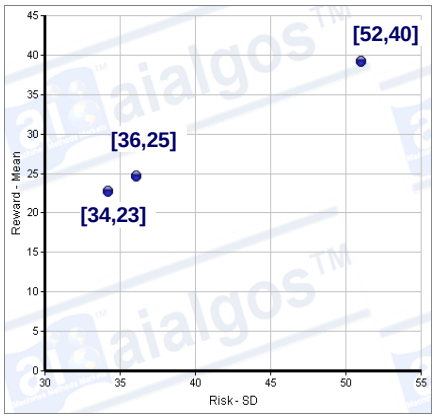
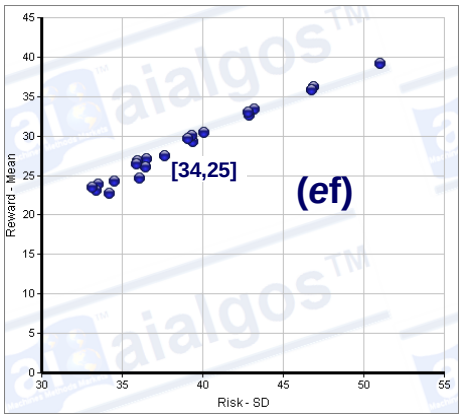
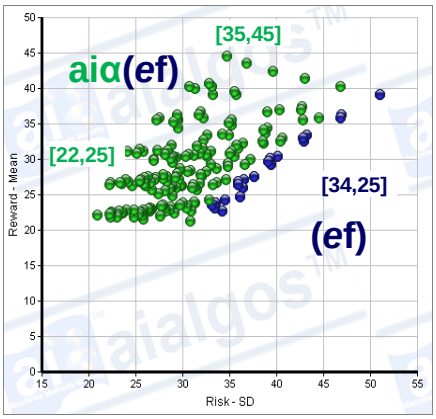
Efficient frontier:expresses [theoretically] best possible risk-reward trade-offs of Portfolios (securities) . Can I get smarter portfolio-choices than ef? With [ai] generate portfolios of better risk-rewards ; explore smarter choices now to north-west of your (ef)
Understand this with 3 stocks [RIL-SBI-L&T] Plot [σ, μ] for (a) Securities (b) ef (Portfolios) (c) ai α(ef)

3-Stocks 〉 (*ef*) 〉 aiα(*ef*)







Efficient-frontier

Say a Portfolio Manager has 3-Securities[RIL-SBI-L&T] Individually each of them have a risk-reward expressed as [σ, μ]

A portfolio [σ, μ] of these 3 securities are determined by (security- [σ, μ] its weight, and co-variance with other securities). **Empirical** portfolio risk-reward for a **given** weightage is another approach to calculate the portfolio [σ, μ]
ef portfolios [σ, μ]
ef comprises a set of various portfolios- each of which has a mean,sd cluster on xy plot. The outermost curve of plots or line is read-out to make the following inferences.
How Interpreted
Given the plots of risk-rewards of each-portfolio; the efficient frontier as a concept helps answer some theoretical boundary line questions. What is the Minimum Variance Portfolio; What is the best return- per unit risk. What is the minimum risk-per threshold return

Practical Use Practical use of ef for future portfolio actions per precise weightages and their outcomes is questionable;yet the exercise does unravel compellingly dominant and inferior choices to watch out for.

Uses

The exercise of ef plots gives significantly more choices (portfolios) to express you risk-reward preference. Look at the degree of choice so to say between different cases. For instance there is no portfolio available at single-stock level for risk tolerance 36-50 %. EF can help generate view and select from a rich a continuum of risk-reward plots.

1 Higher Reward per Unit Risk
For upto 40% risk best returns are Security(25); ef(30); ai(ef) is (45)

2 Lower Risk per Unit Reward
25% return demands Minimum risks as Security(36) ; ef (34) ; aief (22)

3 More portfolios on ef
Security has only 3 choices. **ef-** see the available portfolios of risk rewards from 25-40 returns and 32-50 of risks. **aief** further expand your risk-reward horizon north-west; see returns from 22-45 and risks available from as low as 20 – 35

Efficient Frontier RIL- SBI-L&T (2003-13)	Sec	ef	aiα (ef)
Minimum Variance portf	34	32	21
Min Risk For 25% Return	36	34	22
Max Return upto 40% Risk	25	30	45

aiα(efficient-frontier)

With [ai] generate portfolios far better than ef (your own securities)

How achieved ?
Proprietary invention of a learning engine for risk-taking is the core driver to deliver unique and richer exploratory space to generate different [α-ability functions] resulting in various portfolio risk-rewards.

Clearly see the power of ai to deliver the final truth [risk-reward] in no fuzzy terms expressed in the same notation as ef.

Well this ai(ef) plot is the beginning not the end of the expedition.

Practitioners – upgrade your hard skills in the management-science of risk-taking domain with artificial intelligence and learning engines.

Changing gears in your quantitative-Ferrari can get you only-so-far-and-no-further.

Change the vehicle to an artificial intelligence- space ship to navigate beyond your current observable universe.