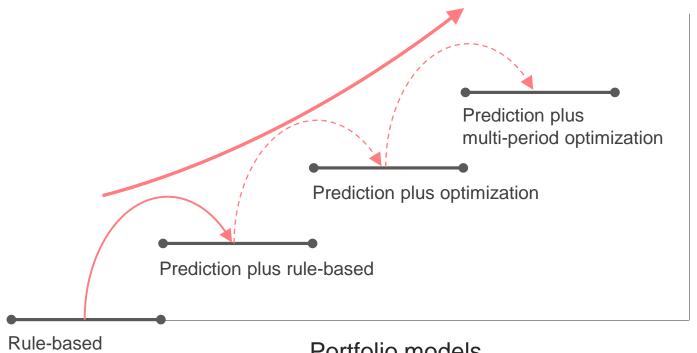
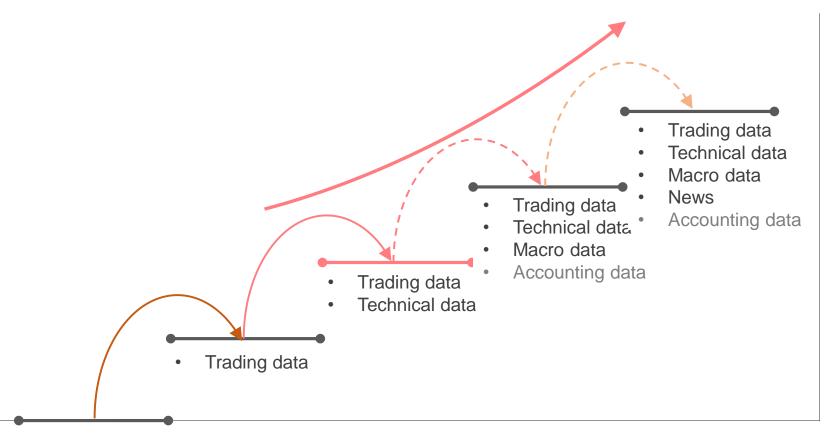
Level	Atumation for portfolio	Method	
Level 1	Rule-based portfolio		Automatiation based on human obervation
Level 2		 Machine learning-based prediction, Rule-based allocation 	
Level 3	AI for optimal portfolio	 Machine learning-based predcition, Single-period optimization 	Control portfolio for a target, at present
Level 3	ALTOCUTE-CVCIE NOCTION		Condier peronsal sitionation. Control portfolio over lifeti me

Step	Portfolio	Method	Automation
Step I	Rule-based portfolios	• Rule	Automatically control portfolio based on rule from human observation.
Step II	Al for rule-based portfolios	Machine learning-based predictionRue-based portfolio	 Automatically control portfolios based on financial data. Investor intervenes in unexpected risk.
Step III	Al for optimal portfolios	Machine learning-based predictionSingle period optimization	 Automatically control portfolios for a target at a time origin. Investor intervene is not need.
Step IV	Al for life-cycle portfolios	Machine learning-based predictionMulti-period optimization	 Automatically control portfolios for a target over a personal life. Investor intervene is not need.



Portfolio models



Historical average

Financial factors