

PROJECT DL WORKFLOW

certain infos



work process



certain infos 

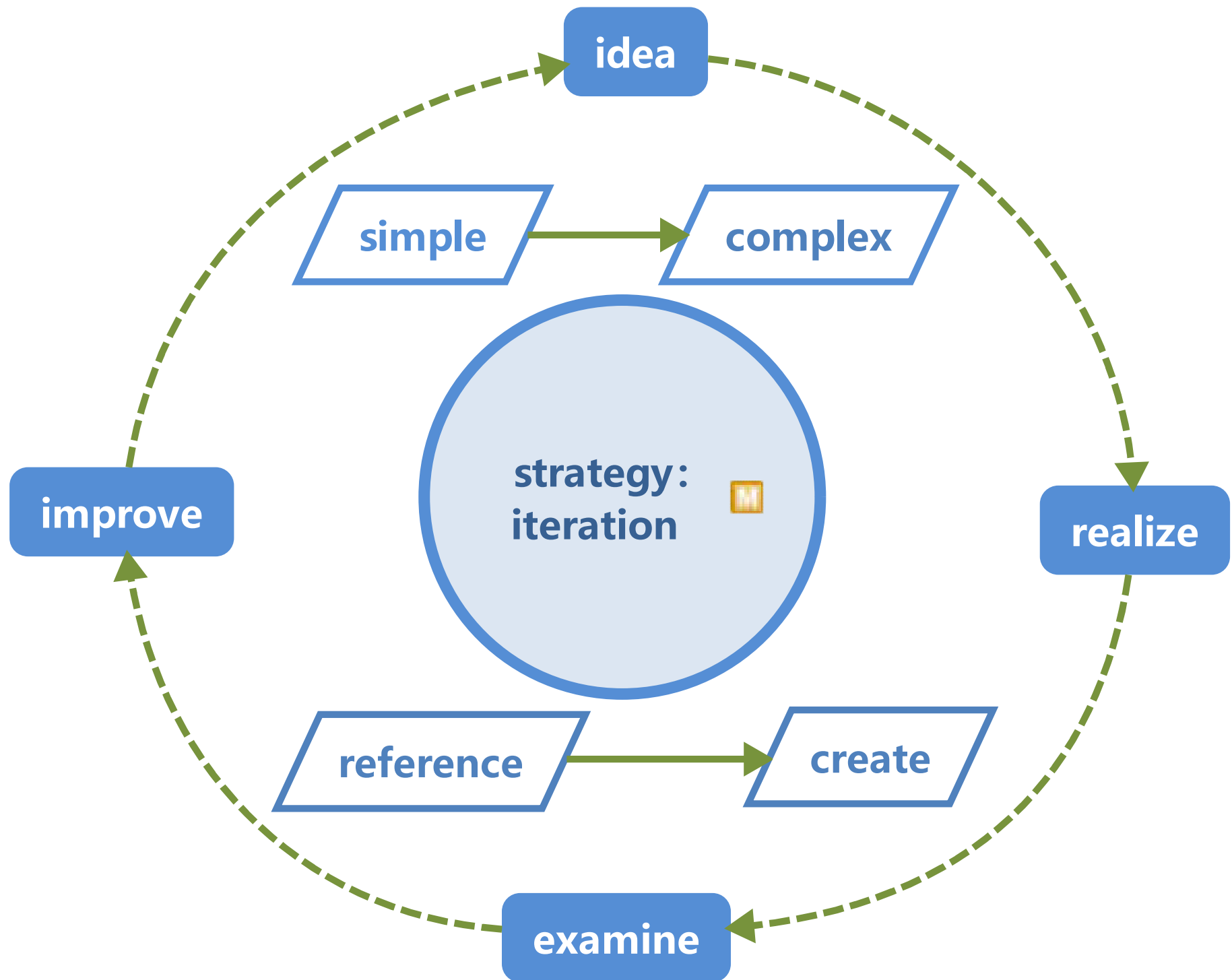
strategy 

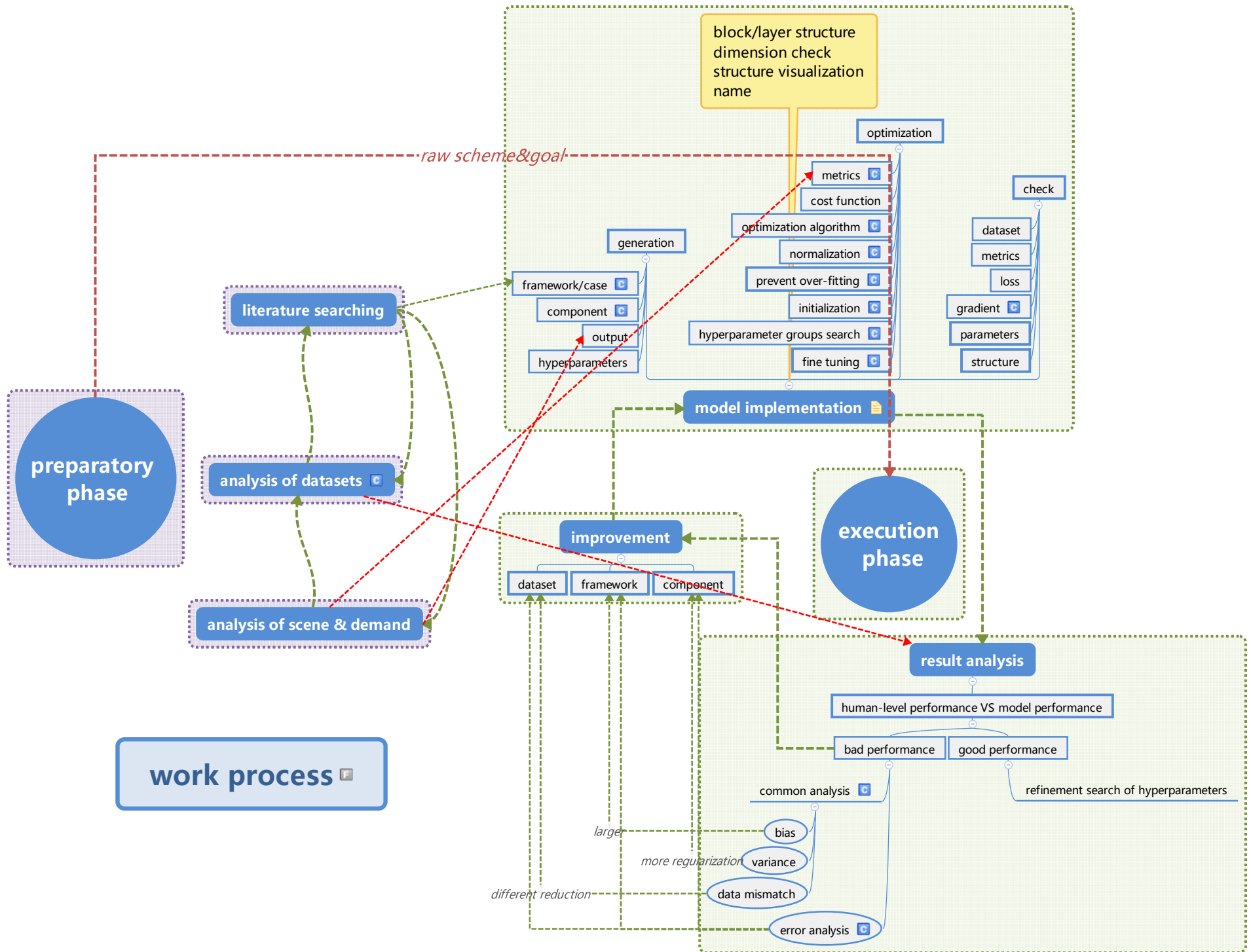
Project

scene

demand







analysis of datasets

magnitude

end-to-end

artificial feature

transfer learning

type

supervised learning

semi-supervised learning

unsupervised learning

reinforcement learning

GAN

ingredient

general data/practical data

raw data/labeled data

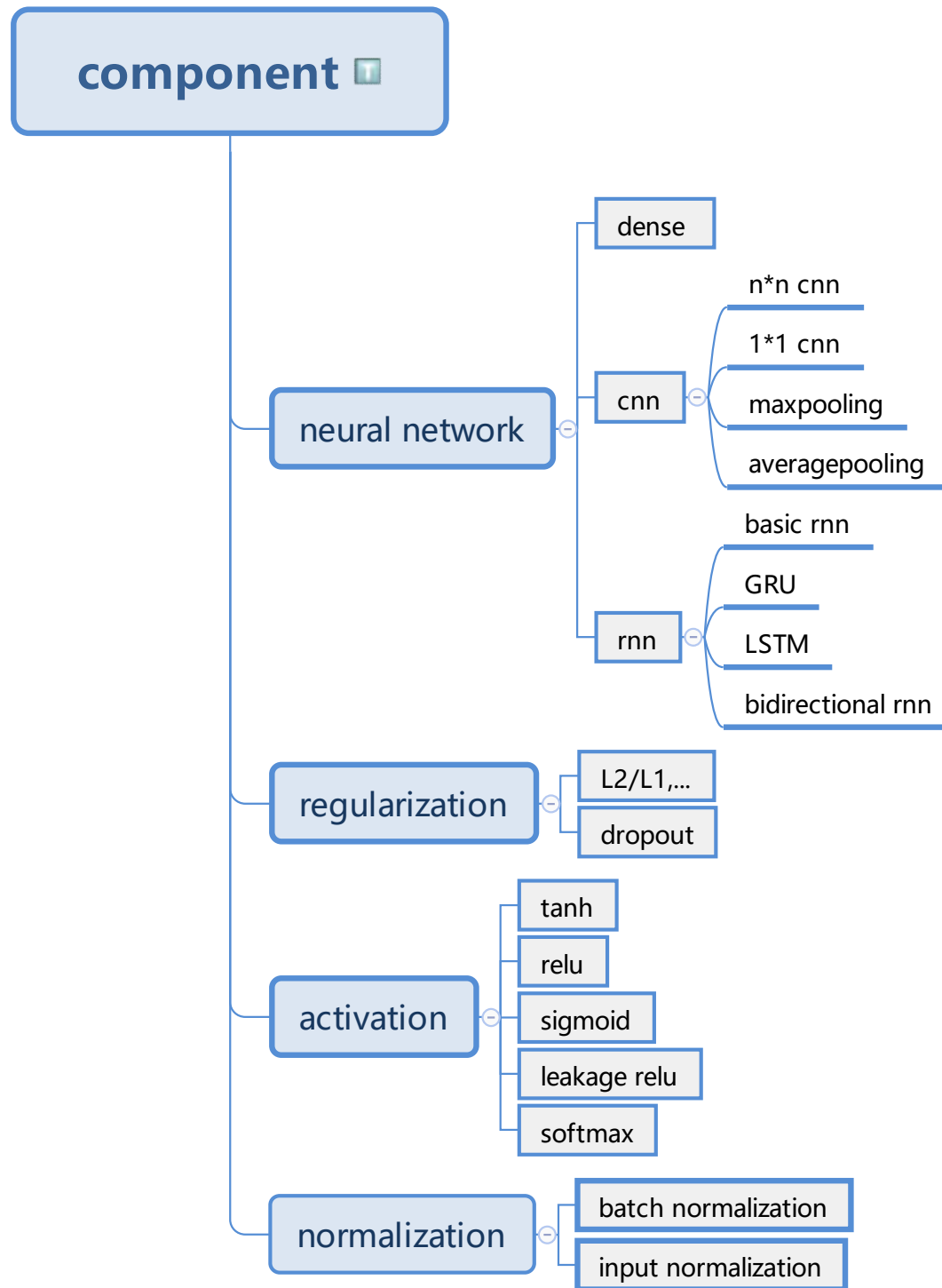
reliability

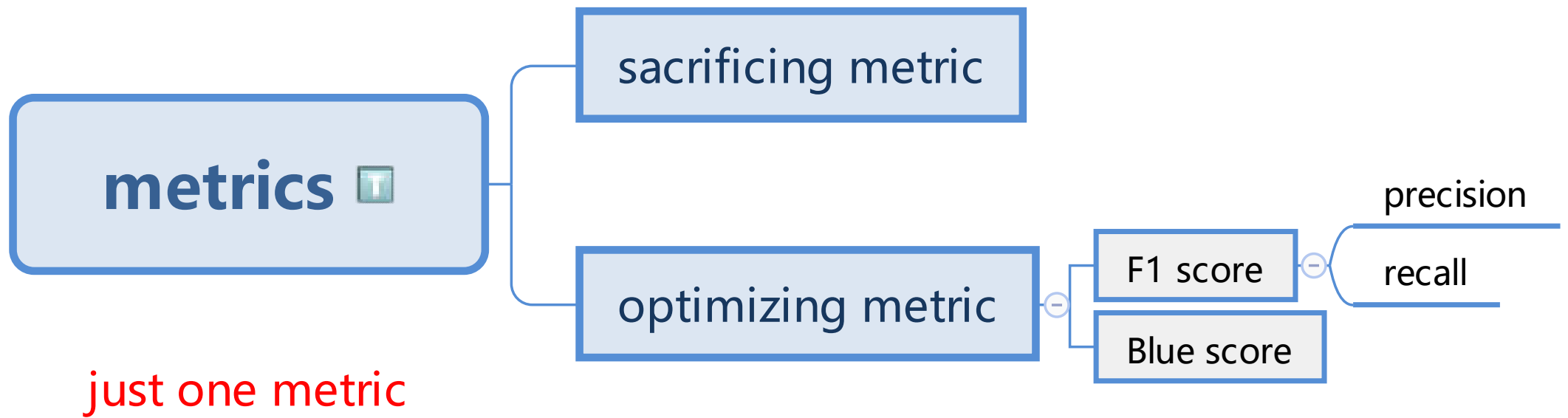
expandability

more labeled data

more raw data

totally new data





optimization algorithm

gradient descent

mini-batch gradient descent(stochastic gradient descent)

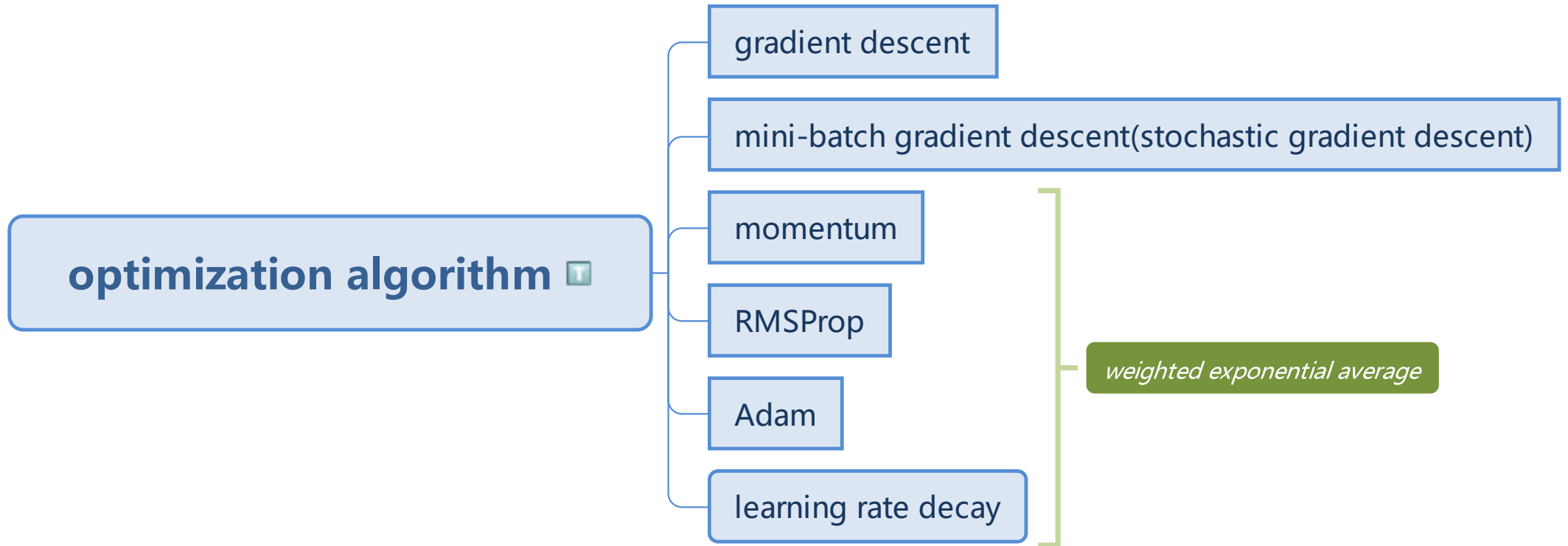
momentum

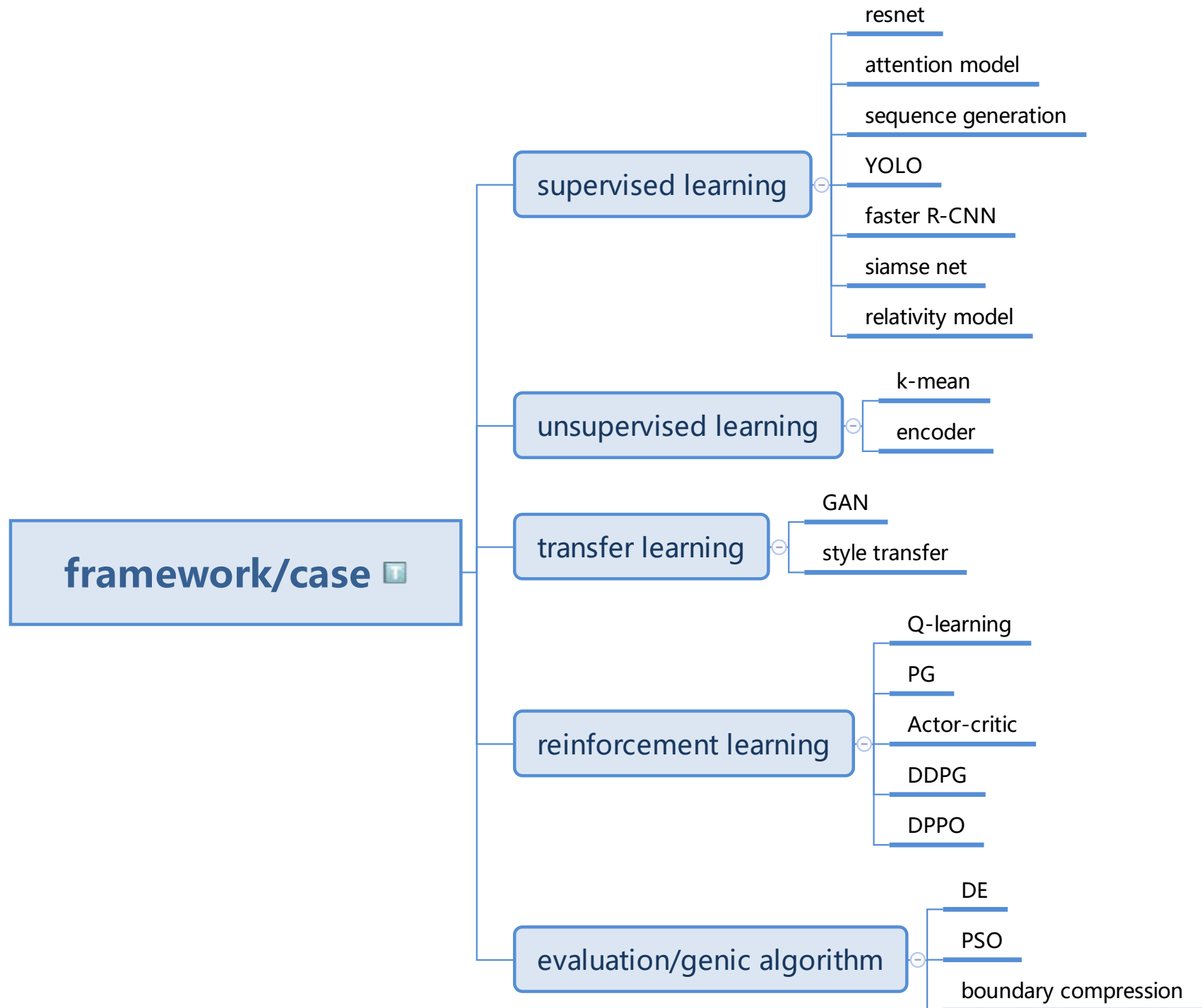
RMSProp

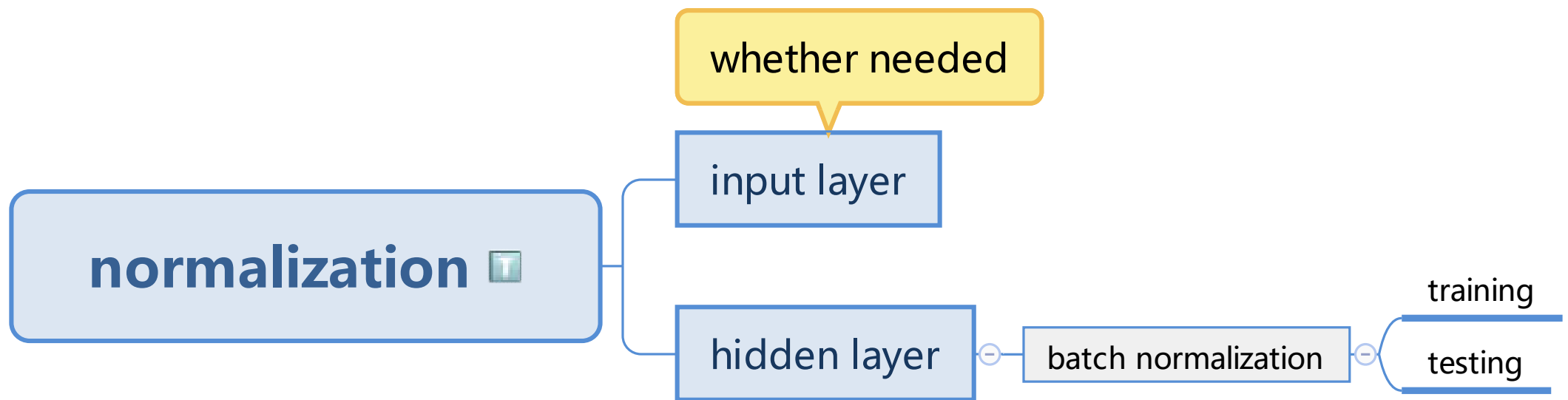
Adam

learning rate decay

weighted exponential average



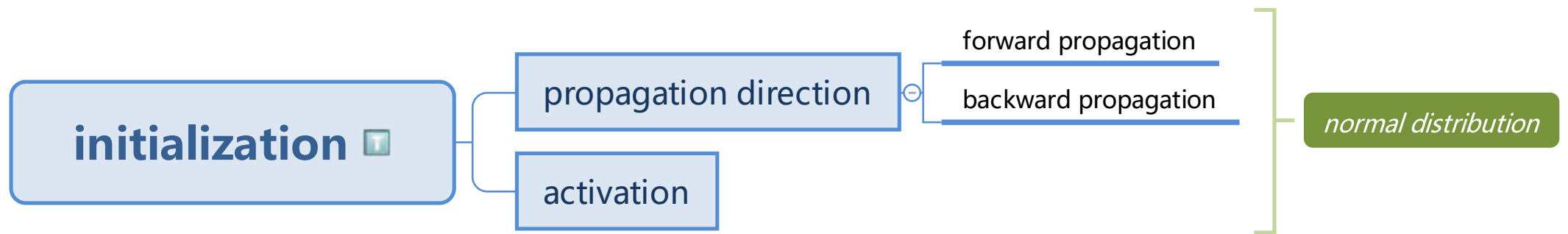




prevent over-fitting 

dropout

regularizers



hyperparameter groups search

different importance of hyperparameters

random search

high level

middle level

low level


learning rate

filters

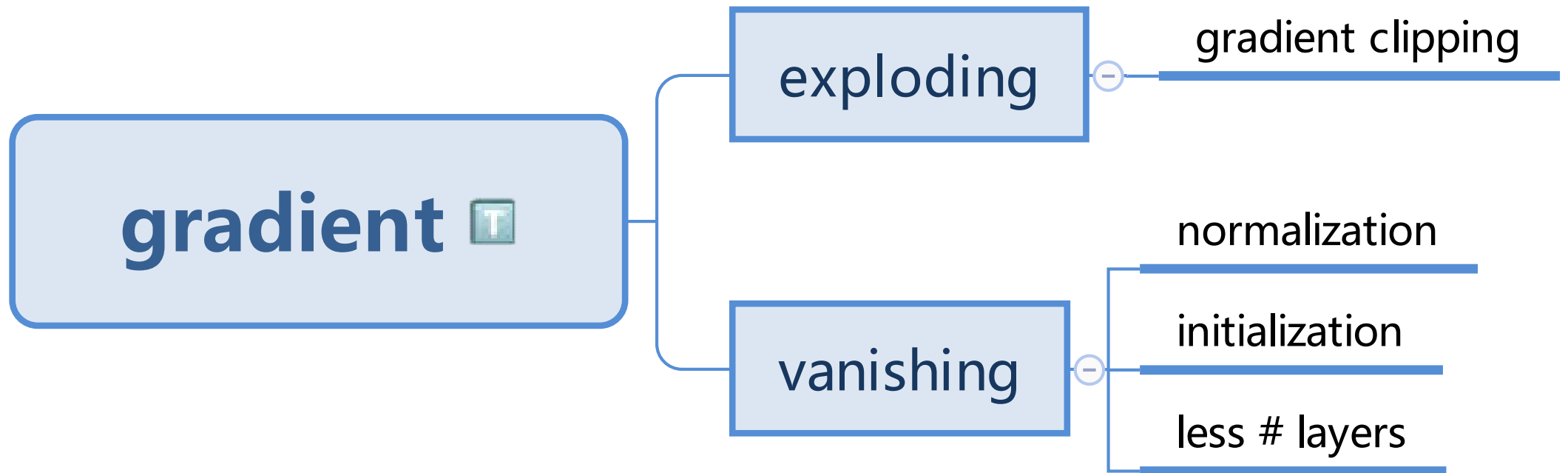
layers(deep CNN)

beta1 (momentum)

...

 log10 scale

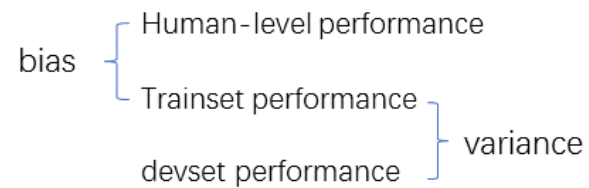
 log10 scale





Big Data

matched data



mismatched data



General data		Practical data	
bias {	Human-level	Human-level	
	Train set	Train set	
	Train-dev set	Dev set	
<div> <div></div> <div>variance</div> <div></div> </div> <div>data mismatch</div>			

error analysis

error analysis of 100 items in dataset

Number	Blurry	Certain class	...	Mislabel	note
1					
2					
...					
sum	n1	n2	...	n3	
Pick errors have more items to fix					

fine tuning 📺

learning rate decay(whole process can be split into several phase)

batch size larger

optimizer replacement