1. self.old\_model 初始化为之前训练的模型，满足log barrier ！= inf  
2. 实例化 lstm\_model  
3. BLS:  
 3.1: 验证lstm\_model 的Log barrier是否 = inf  
 yes：3.1.1: 两个模型参数flatten  
 3.1.2: 更新模型  
 3.1.3: write\_flatten\_params  
 3.1.4: 验证log barrier  
 no: self.old\_model = copy.deepcopy(lstm\_model)

Weights

after epoch i

K

γ for curriculum

learning

Plant

error

MSE

0

NN for K

PID Controller

*Iterative method:*# *1. Initialize K\_0 for PID controller, set max iterative num p\_max*# *2. for epoch i < max epoch, for p <= p\_max and plant\_i, do*# *2.1 train K\_i^\* with NN-PID*# *2.2 update K\_i^p = alpha \* K\_i^p + (1-alpha) \* K\_i^\**# *2.3 p = p+1*# *3. train weights of plant\_(i+1) with K\_i^(p\_max)*# *4. epoch = epoch + 1, set K\_(i+1) = K\_i^p\_max, back to 2.*

* TBD: on what data train ‘NN for K’:
  + Minibatch on original training set
  + Split the original training set 80% into training set1 (Plant) or 20% trianing set2 (NN for K)

Forward: