#### **Problem**

input dimension numofObj

numofCon lowbound

check\_input()

evaluation()

upbound

### ClimateModel

parameters

evaluationVariable ModelPath ObservationPath

run model() get\_metrics()

## Optimization

problem MaxIter generalizer x new

y new con\_new

LatinHyperSamples singleoptimization multioptimization constrainted optimization

# Generalizer

dim limits samples x sample y

sample constraint

surrogate incorporate new sample() get next sampling location()

**CAND** 

surrogate sample X

sample Y samples con

weight Minimize Merit Function()

candidate\_sample\_X

Minimize Merit Function MO() Minimize Merit Function MO CON()

# SurrogateModelRegression

learningtrate hiddenlayersize hiddenlayers

activation function dimension

NumberOfOutput init()

fit() predict()