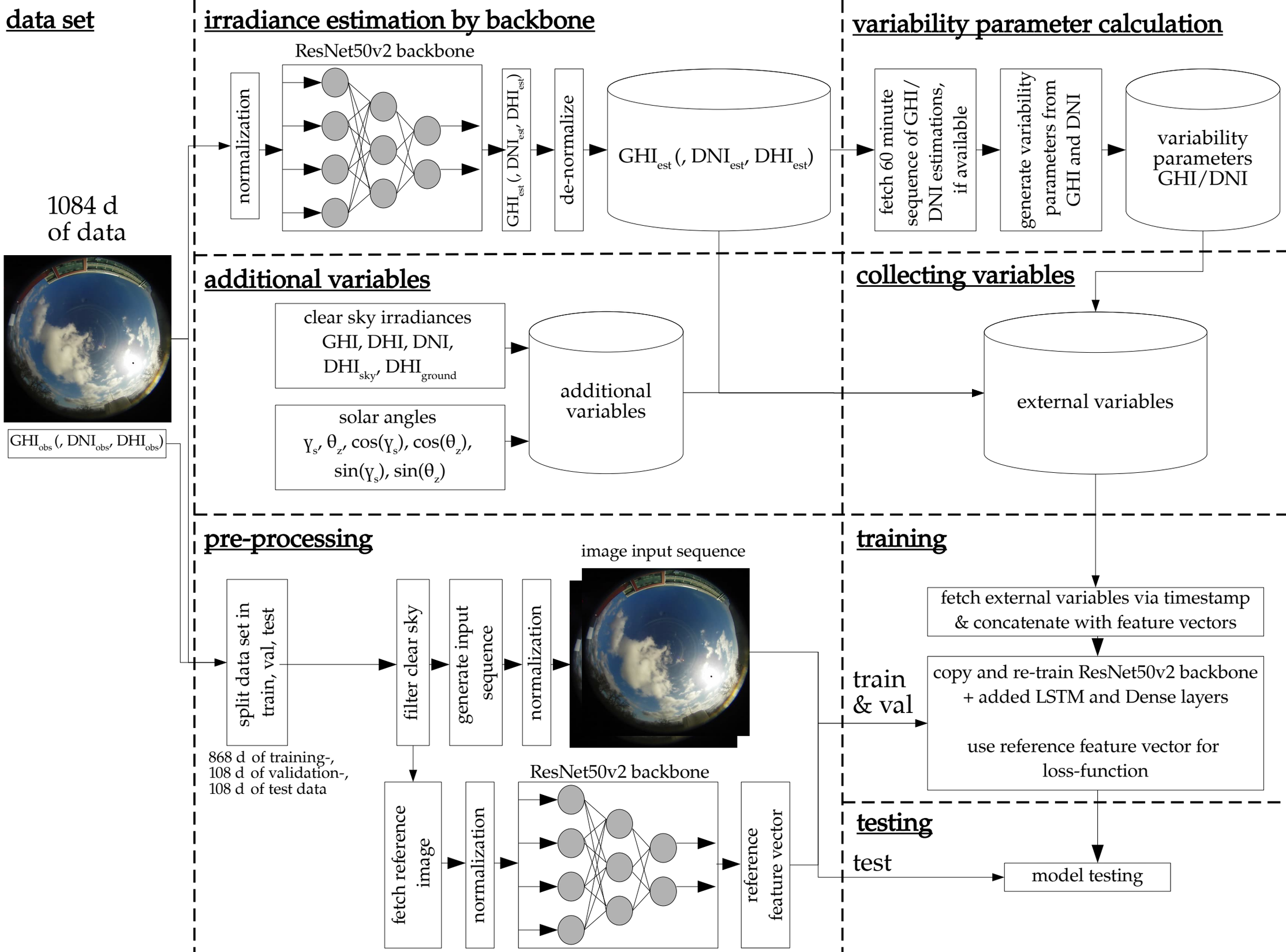
data set
1084 d of data
GHIobs (, DNIobs, DHIobs)
irradiance estimation by backbone
ResNet50v2 backbone
normalization
GHIest (, DNIest, DHIest)
de-normalize
GHIest (, DNIest, DHIest)
variability parameter calculation
fetch 60 minute sequence of GHI/DNI estimations, if available
generate variability parameters from GHI and DNI
variability parameters GHI/DNI
additional variables
clear sky irradiances GHI, DHI, DNI, DHIsky, DHIground
solar angles γs, θz, cos(γs), cos(θz), sin(γs), sin(θz)
additional variables
collecting variables
external variables
pre-processing
split data set in train, val, test
868 d of training-, 108 d of validation-, 108 d of test data
filter clear sky
generate input sequence
normalization
image input sequence
fetch reference image
normalization
ResNet50v2 backbone
reference feature vector
training
fetch external variables via timestamp & concatenate with feature vectors
train & val
copy and re-train ResNet50v2 backbone + added LSTM and Dense layers
use reference feature vector for loss-function
testing
test
model testing