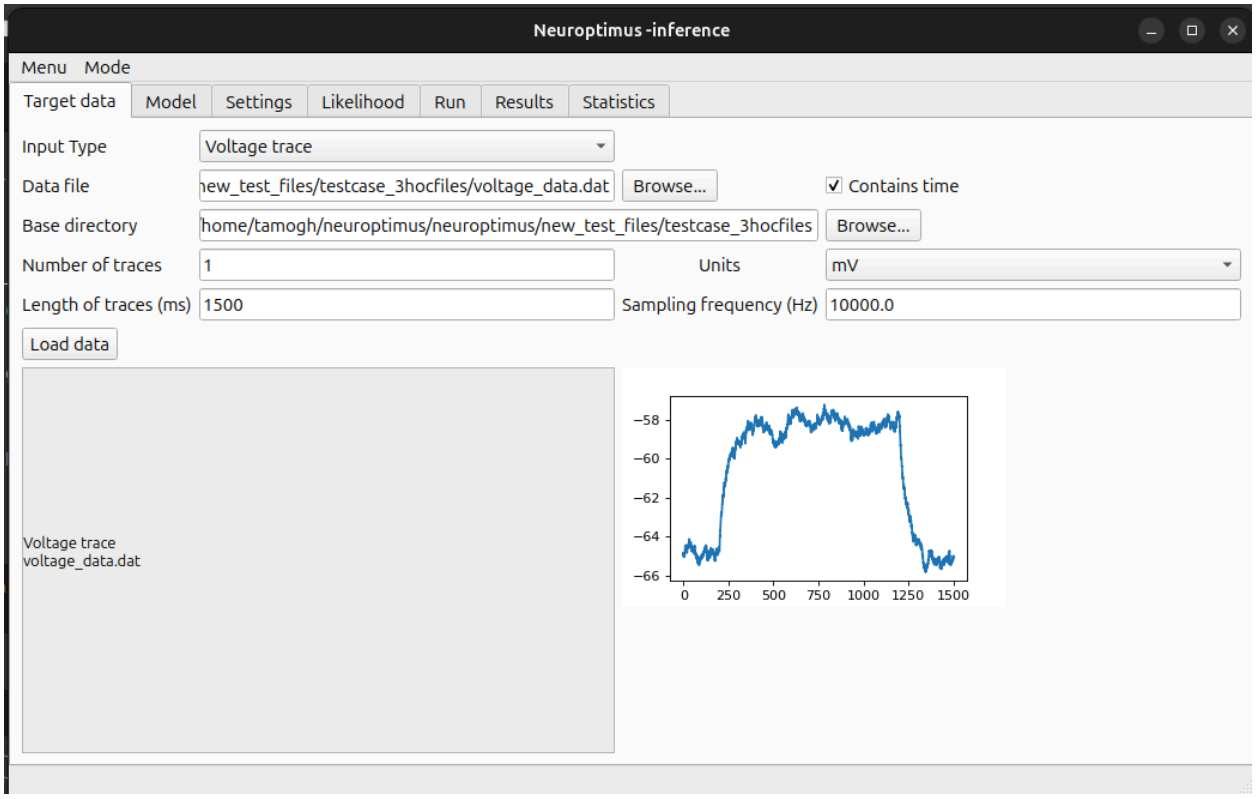
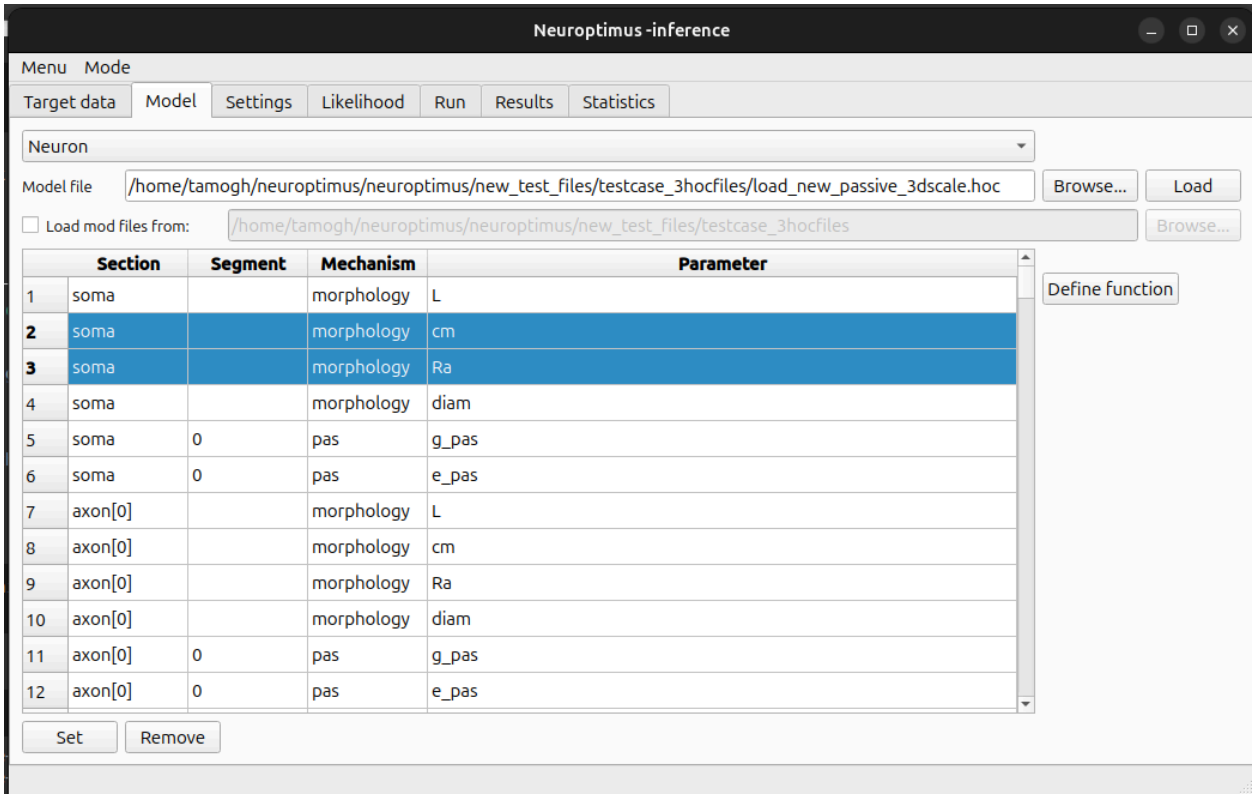
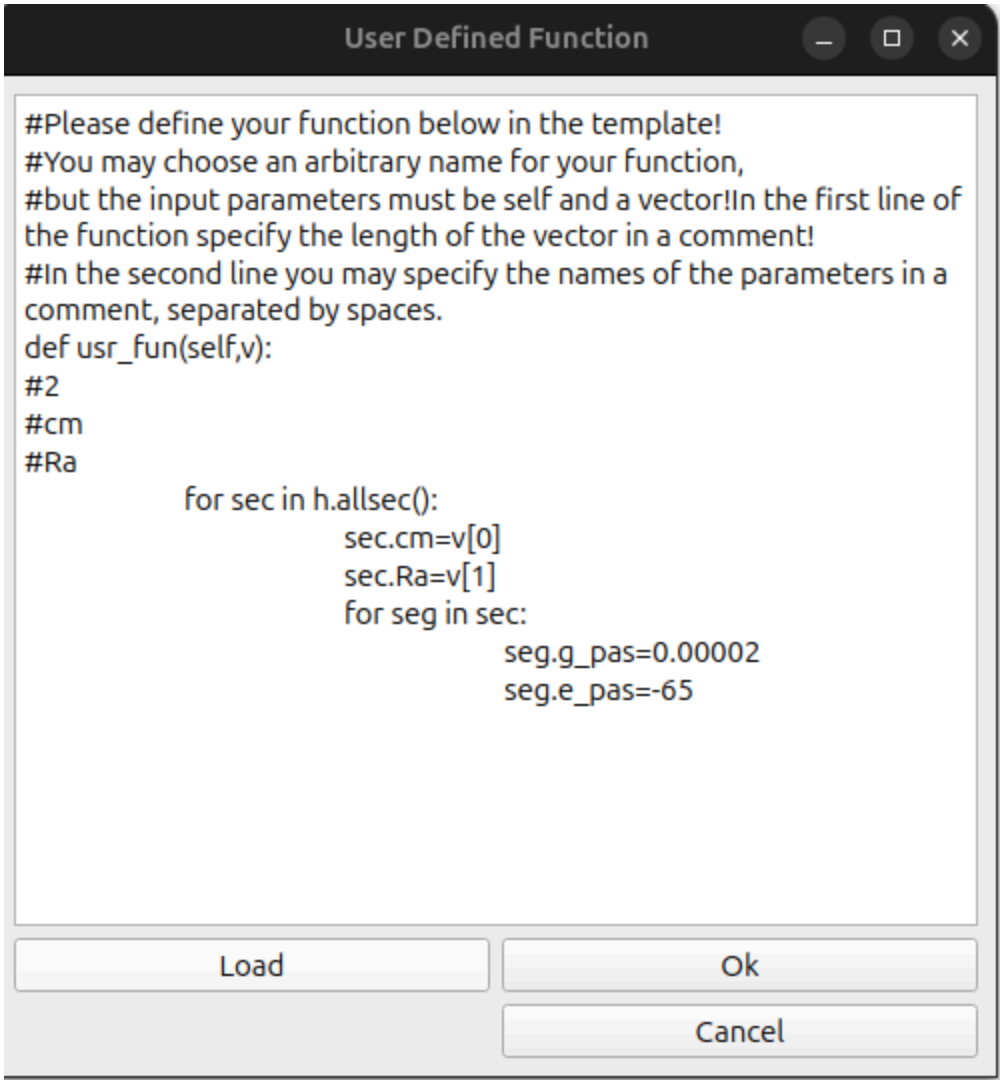
**Summary of example:**
The data file has one trace which is 1500ms long and the sampling Frequency was 10kHz.
The data file also contains the time and was obtained from the corresponding model by using an IClamp (connected to the middle (0.5) of the soma) with the following parameters:
stim.del=200
stim.dur=1000
stim.amp=0.03
The following model parameters were set (the others are default):
Ra =120
Cm =1.0
input file: "voltage_data.dat"
model: load_new_passive_3dscale.hoc
Step-by-step instructions to run the example from the Optimizer GUI:
Run „python3 optimizer.py -g” to start the GUI
At ’Data File’ load the target data, at ’Base Directory’ choose the directory where you want to save the results. Fill out all the cells and press ’Load trace’. Go on by pressing the Model Tab.



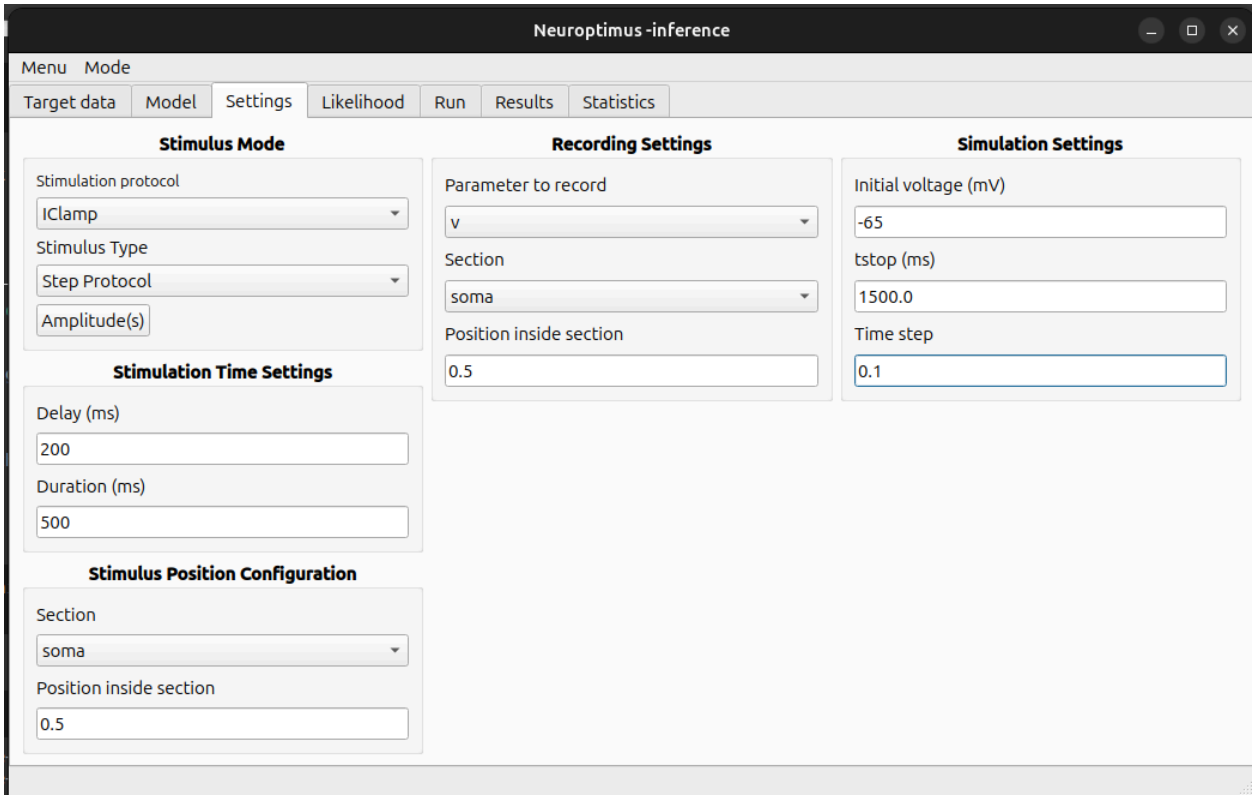

Browse to the model file and load the model. To select a parameter click first on the parameter, then press ’Set’. Repeat it to select a new Parameter.



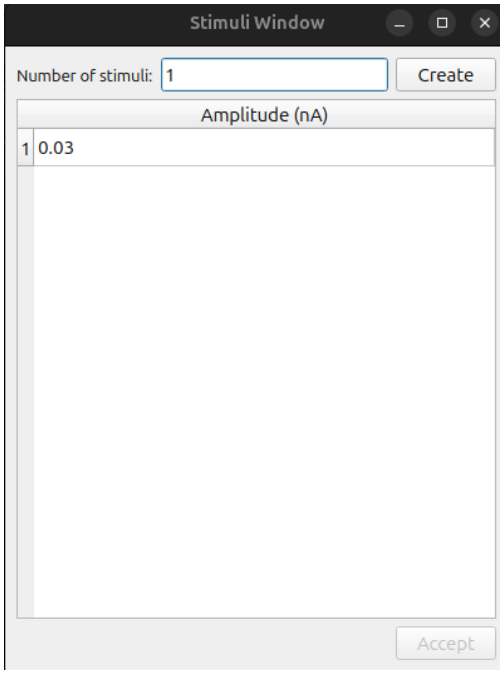

Instead of selecting the parameters we will define our own user defined function.



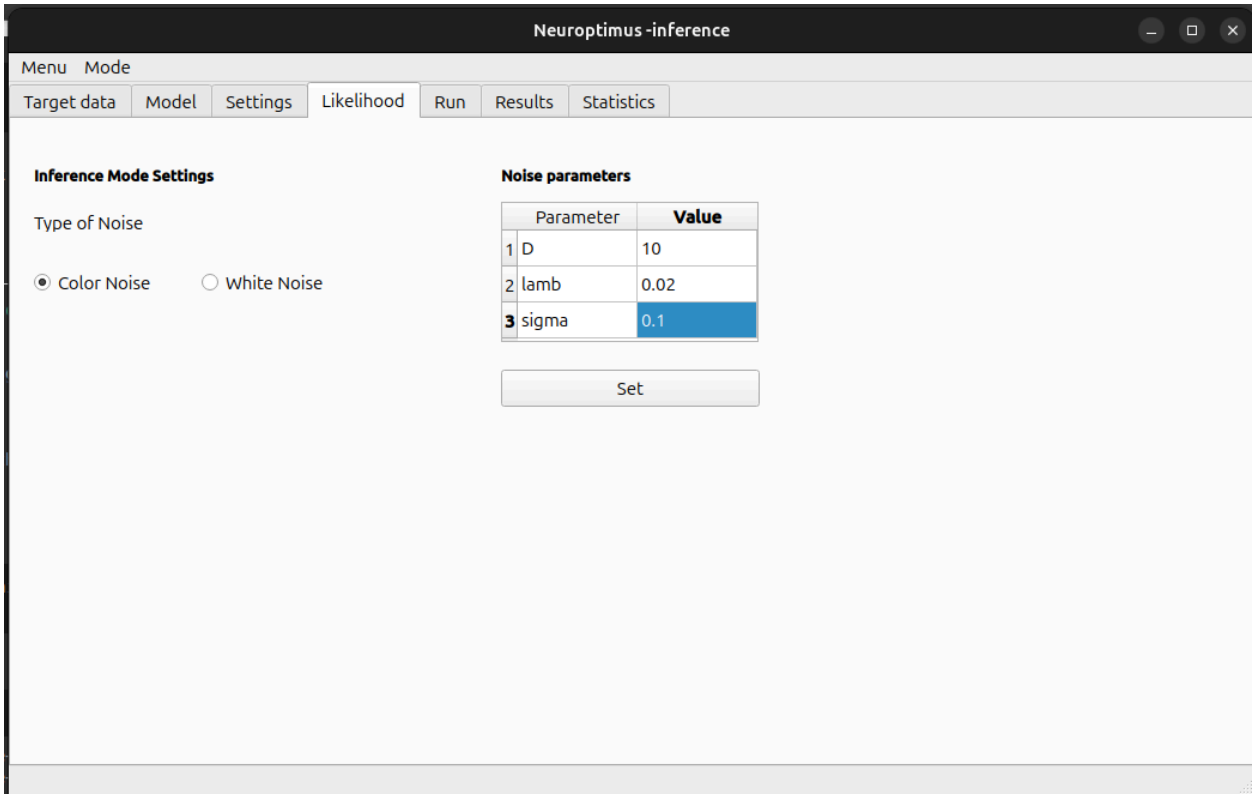

Go on by pressing the Settings Tab.




Fill in all the cells. Press ’Amplitude(s)’ to open the ’Set Amplitude(s)’ window.

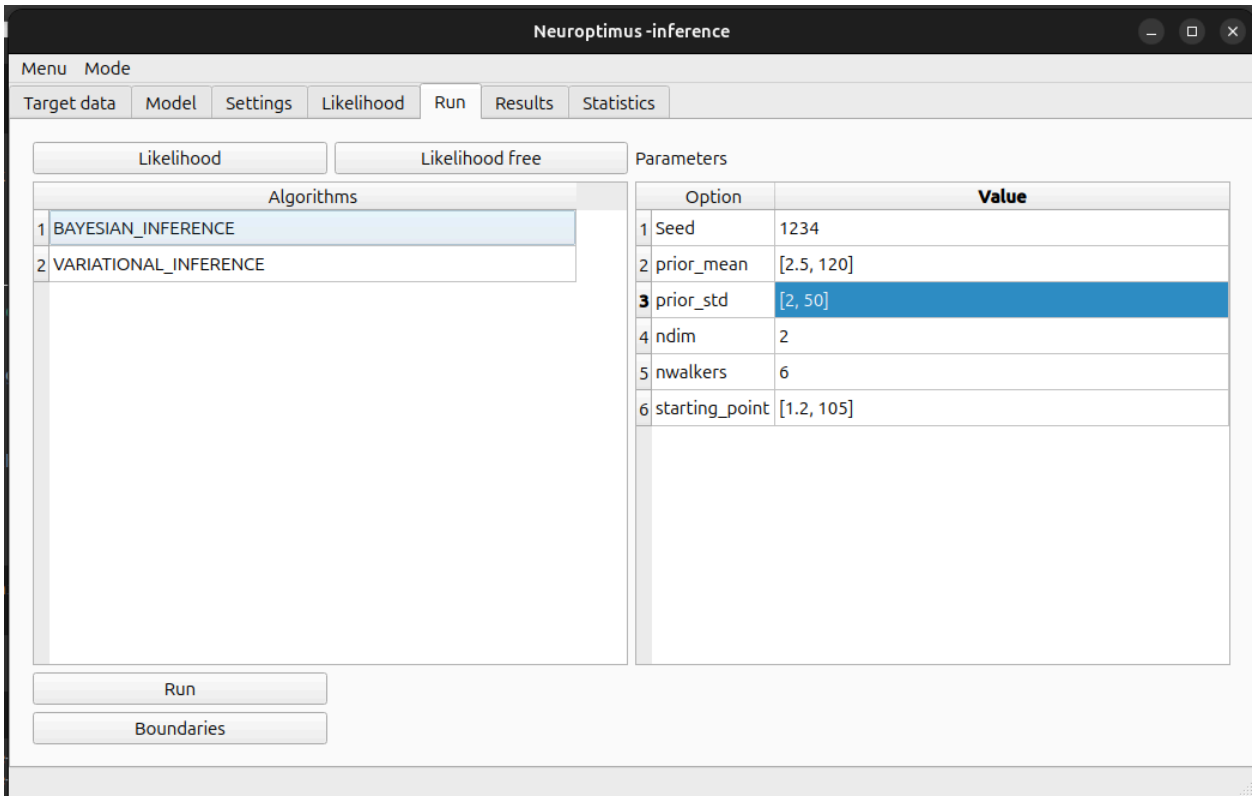


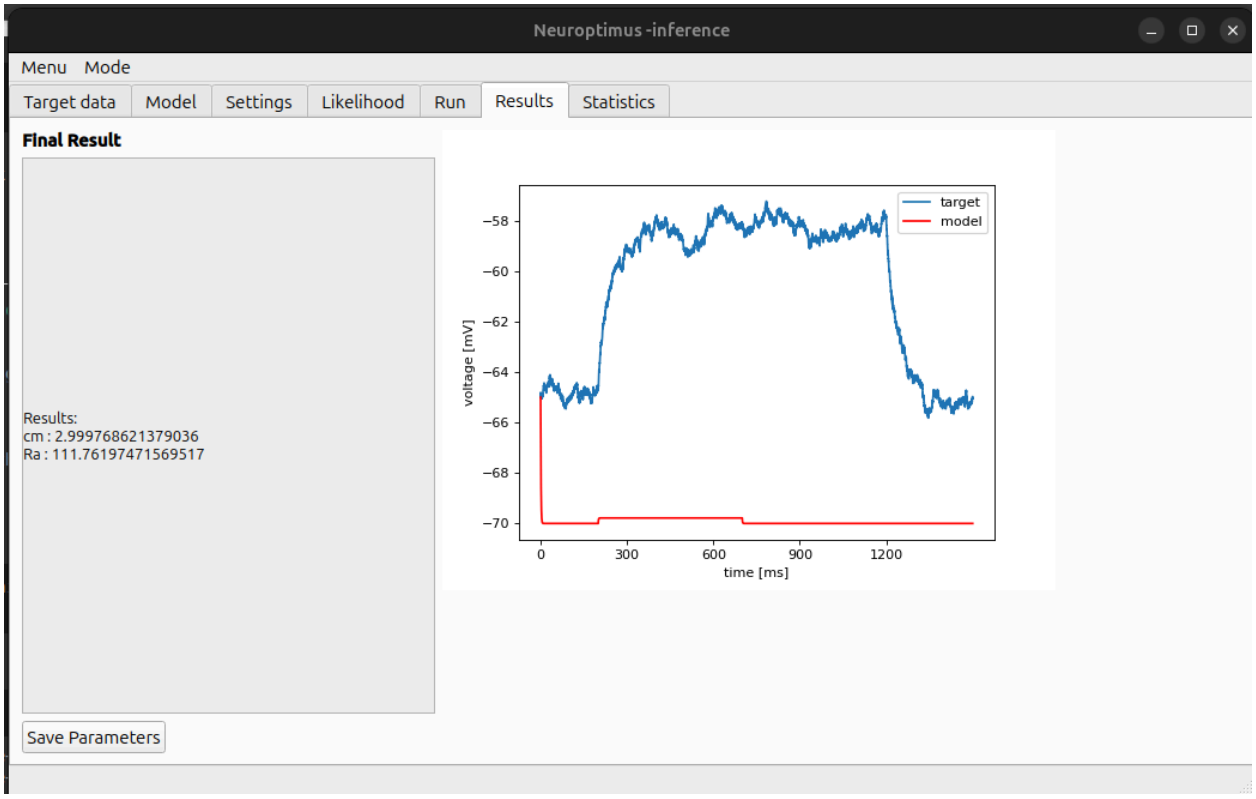

Now enter the inference settings details. Choose the type of noise , and enter it’s respective parameters. Click set.



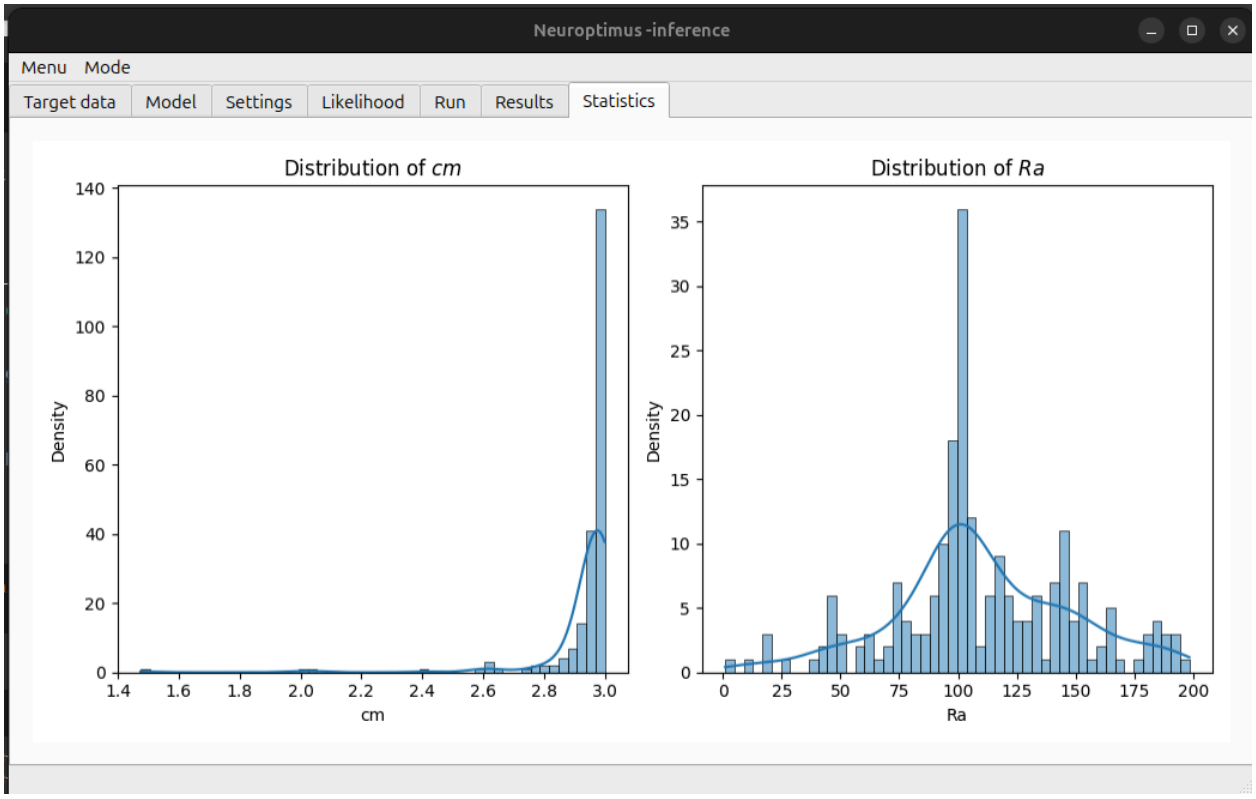

Select an algorithm, and press the ’Boundaries’ button to define the boundaries of the parameters to be optimized:
Press ’Set’.
Start the inference pressing the ’Run’

button


Neuroptimus -inference
Menu
Mode
Target data
Model
Settings
Likelihood
Run
Results
Statistics
Likelihood
Likelihood free
Parameters
Algorithms
1 BAYESIAN_INFERENCE
2 VARIATIONAL_INFERENCE
Option
Value
1 Seed 1234
2 prior_mean [2.5, 120]
3 prior_std [2, 50]
4 ndim 2
5 nwalkers 6
6 starting_point [1.2, 105]
Run
Boundaries




Results are shown as above.




Probability distribution graphs of the model.