

aiTemplateMatching

aiTemplateMatching determines the positions and orientations of a template given as a small volume in a larger volume.

aiTemplateMatching needs a configuration file provided by the **-u** argument. Some options can be overwritten using command line arguments.

Options are:

CudaDeviceIDs

The deviceIDs of the GPUs to use.

Argument for command line: **-d** or **--CudaDeviceIDs**

Type: **List<int>**, a list of integer values

Option is mandatory: **true**

Input

The file to process.

Argument for command line: **-i** or **--Input**

Type: **string**

Option is mandatory: **true**

LP

Low pass filter value.

Argument for command line: **-lp** or **--LP**

Type: **float**

Option is mandatory: **true**

LPS

Low pass filter sigma value.

Argument for command line: **-lps** or **--LPS**

Type: **float**

Option is mandatory: **true**

HP

High pass filter value.

Argument for command line: **-hp** or **--HP**

Type: **float**

Option is mandatory: **false**

Default value if not set: **0**

HPS

High pass filter sigma value.

Argument for command line: **-hps** or **--HPS**

Type: **float**

Option is mandatory: **false**

Default value if not set: **0**

MotiveList

The list of particles to save the result to.

Type: **string**

Option is mandatory: **true**

Reference

Reference filename.

Type: **string**

Option is mandatory: **true**

ReferenceNr

Reference number (for a final motive list with multiple references).

Type: **int**

Option is mandatory: **false**

Default value if not set: **0**

Mask

Mask filename.

Type: **string**

Option is mandatory: **true**

AngIter

Number of angular search increments.

Type: **int**

Option is mandatory: **true**

AngIncr

Angular search increment.

Type: **float**

Option is mandatory: **true**

PhiAngIter

Number of angular search increments for phi angle.

Type: **int**

Option is mandatory: **true**

PhiAngIncr

Angular search increment for phi angle.

Type: **float**

Option is mandatory: **true**

CouplePhiToPsi

Indicates if the phi angle is coupled to psi (can be necessary for restricted search ranges).

Type: **bool**

Option is mandatory: **true**

Threshold

Only include matches with a correlation score above threshold.

Type: **float**

Option is mandatory: **true**

MaxParticleCount

Limit the number of detected particles, such that only the particles with best correlation values remain (applied before final distance filter).

Type: **int**

Option is mandatory: **true**

MinDist

Minimum distance in between two particles (in unbinned pixels).

Type: **float**

Option is mandatory: **true**

Fragments

The number of fragments the tomogram is split into on each GPU (0 for automatic).

Type: **int**

Option is mandatory: **true**

ExtendedStatistics

Computes extended statistics of the CC value over the scanned rotations and stores them in the free value section of the motive list (needs more GPU memory though).

Type: **bool**

Option is mandatory: **false**

Default value if not set: **false**

CorrelationMethod

Defines the correlation method to use: 'Cross-Correlation' or 'Phase-Correlation'.

Type: one of [**CROSSCORRELATION**, **PHASECORRELATION**]

Option is mandatory: **true**

Possible notations:

- **CROSSCORRELATION**: CROSSCORRELATION, CROSS-CORRELATION, CROSS_CORRELATION, CrossCorrelation, Cross-Correlation, Cross_Correlation, crosscorrelation, cross-correlation, cross_correlation
- **PHASECORRELATION**: PHASECORRELATION, PHASE-CORRELATION, PHASE_CORRELATION, PhaseCorrelation, Phase-Correlation, Phase_Correlation, phasecorrelation, phase-correlation, phase_correlation