




Profile Summary

Generated 13-Aug-2019 10:23:23 using performance time.

Function Name	Calls	Total Time	Self Time*	Total Time Plot (dark band = self time)
HorseShoeMethod2	1	71.815 s	0.975 s	
Load_Cube	21	70.156 s	5.756 s	
imwarp	4500	31.837 s	1.086 s	
Calibrate_Image	1500	25.805 s	1.594 s	
rmoutliers	3000	21.600 s	0.080 s	
rmMissingOutliers	3000	21.520 s	0.137 s	
rmMissingOutliers>applyFun	3000	19.364 s	0.084 s	
isoutlier	3000	19.280 s	0.097 s	
datafun/private/locateoutliers	3000	18.335 s	1.009 s	
datafun/private/datafunigr	3000	17.216 s	10.084 s	
imwarp>parseInputs	4500	14.850 s	3.696 s	
validatestring	21046	8.312 s	2.345 s	
interp1q	3000	7.132 s	7.052 s	
imref2d>imref2d.imref2d	4521	6.945 s	0.613 s	
imwarp>validateInterpMethod	4500	6.884 s	0.066 s	
ImageDatastore.readimage	1500	6.343 s	0.063 s	
...ensionManager.SpatialDimensionManager	9042	6.333 s	2.540 s	
...t:ImageDatastore.readUsingSplitReader	1500	6.280 s	0.088 s	
...holeFileCustomReadSplitReader.getNext	1500	5.556 s	0.247 s	
validatestring>checkString	21046	5.415 s	0.967 s	
imwarp>remapPointsAndResample	4500	5.285 s	0.089 s	
imwarp>ippWarpAffine	4500	5.127 s	0.842 s	
@ImageDatastore/...te/readDatastoreImage	1500	5.112 s	0.312 s	
imread	1500	4.678 s	0.290 s	
...string>throwErrorWithArgDescriptor	4500	4.196 s	2.452 s	
imwarp>validateTform	9000	3.896 s	0.698 s	
imread>call_format_specific_reader	1500	3.798 s	0.149 s	

imagesci/private/readtif	1500	3.649 s	0.093 s	■
attributes	10500	3.538 s	0.368 s	■
imwarp>preparseSpatialReferencingObjects	4500	3.502 s	1.197 s	■
imagesci/private/rtifc (MEX-file)	1500	3.449 s	3.449 s	■
undistortImage	1500	2.611 s	0.097 s	■
images/private/ippgeotrans (MEX-file)	4500	1.984 s	1.984 s	■
attributes>checkAttrs	10500	1.771 s	0.523 s	■
...meraParametersImpl.undistortImageImpl	1500	1.384 s	0.454 s	■
...>SpatialDimensionManager.set.Delta	9042	1.226 s	0.866 s	■
...lDimensionManager.set.NumberOfSamples	9042	1.154 s	0.610 s	■
imwarp>postProcessMethodString	4500	1.023 s	0.591 s	■
affine2d>affine2d.set.T	12104	1.009 s	0.651 s	■
rmMissingOutliers>reduceSize	3000	0.990 s	0.990 s	■
attributes>checkInputs	10500	0.943 s	0.530 s	■
...ialDimensionManager.set.DimensionName	9042	0.921 s	0.207 s	■
affine2d>affine2d.affine2d	6063	0.899 s	0.167 s	■
getArgumentDescriptor	4500	0.866 s	0.866 s	■
isoutlier>parseinput	3000	0.842 s	0.370 s	■
imwarp>validateInputImage	4500	0.828 s	0.828 s	■
...er>ImageTransformer.transformImage	1500	0.826 s	0.041 s	■
interp2d	1500	0.781 s	0.067 s	■
imwarp>remapPartialParamNamesImwarp	4500	0.719 s	0.276 s	■
remapmex (MEX-file)	1500	0.702 s	0.702 s	■
rat	18084	0.698 s	0.698 s	■
attributes>valueAttributor	18000	0.596 s	0.504 s	■
undistortImage>parseInputs	1500	0.578 s	0.047 s	■
...expectedScalar',msgld,argname,argpos)	9000	0.563 s	0.172 s	■
validatestring>checkInputs	21046	0.552 s	0.552 s	■
affine2d>affine2d.invert	4500	0.548 s	0.088 s	■
rmMissingOutliers>computeIndex	3000	0.540 s	0.540 s	■
undistortImage>checkCameraParameters	1500	0.531 s	0.192 s	

...ustomReadFileSetSplitter.createReader	1501	0.529 s	0.239 s	
generateArgumentDescriptor	15000	0.519 s	0.428 s	
...ionManager.set.StartCoordinateInWorld	9042	0.492 s	0.492 s	
rmMissingOutliers>parseInputs	3000	0.488 s	0.205 s	
attributes>checkClass	10500	0.456 s	0.456 s	
generateId	4500	0.450 s	0.175 s	
remapPartialParamNames	4500	0.443 s	0.306 s	
attributes>findSupportedAttr	18000	0.374 s	0.374 s	
imageDatastore	1	0.371 s	0.001 s	
...tore>ImageDatastore.ImageDatastore	1	0.369 s	0.004 s	
imread>get_full_filename	1500	0.365 s	0.365 s	
SpatialDimensionManager>simplifyRatio	9042	0.360 s	0.081 s	
...store>ImageDatastore.initDatastore	1	0.352 s	0.013 s	
errorIf	25712	0.339 s	0.261 s	
validatestring>createCommaSeparatedText	4500	0.321 s	0.321 s	
...pectedNonempty',msgId,argname,argpos)	9000	0.312 s	0.107 s	
undistortImage>parseInputsMatlab	1500	0.279 s	0.279 s	
generateId>isValidId	4500	0.275 s	0.275 s	
...atialDimensionManager.get.WorldLimits	27042	0.271 s	0.271 s	
rmMissingOutliersVarargin	3000	0.267 s	0.175 s	
...esolvedFileSetFactory.buildCompressed	1	0.254 s	0.003 s	
ismissing	4500	0.252 s	0.038 s	
imref2d>imref2d.get.PixelExtentInWorldX	18000	0.241 s	0.170 s	
validateImage	1500	0.219 s	0.028 s	
ismissingKernel	4500	0.214 s	0.162 s	
DsFileSet.DsFileSet>DsFileSet.GetFiles	1502	0.206 s	0.025 s	
setGlobalVariables	1	0.198 s	0.055 s	
imref2d>imref2d.get.PixelExtentInWorldY	18000	0.196 s	0.139 s	
affine2d>affine2d.get.Tinv	4500	0.186 s	0.172 s	
...edFileSetFactory.buildFileInformation	2	0.183 s	0.005 s	
fileparts	3000	0.183 s	0.161 s	

validateImage>localValidate	1500	0.183 s	0.057 s	
ResolvedFileSet>ResolvedFileSet.GetFiles	1502	0.181 s	0.016 s	
lookupAndFilterExtensions	1	0.178 s	0.033 s	
...t:RemoteToLocalFile.RemoteToLocalFile	1500	0.173 s	0.102 s	
...t:CompressedFileSet.GetFilesAsCellStr	1502	0.165 s	0.157 s	
imwarp>checkOutputViewAgreementWithTform	4500	0.163 s	0.163 s	
imref2d>imref2d.get.XWorldLimits	9000	0.158 s	0.078 s	
imref2d>imref2d.get.YWorldLimits	9000	0.145 s	0.078 s	
cell.ismember	7506	0.143 s	0.143 s	
imref2d>imref2d.getImageSize	4500	0.139 s	0.139 s	
remapPartialParamNames>my_strmatch	9000	0.137 s	0.137 s	
imref2d>imref2d.get.XIntrinsicLimits	9000	0.129 s	0.082 s	
...>SpatialDimensionManager.get.Delta	36000	0.127 s	0.127 s	
...arameters>cameraParameters.loadobj	1	0.126 s	0.003 s	
...>cameraParameters.cameraParameters	1	0.123 s	0.001 s	
...raParametersImpl.CameraParametersImpl	1	0.122 s	0.025 s	
imref2d>imref2d.get.YIntrinsicLimits	9000	0.117 s	0.080 s	
mean	3000	0.109 s	0.081 s	
imagesci/private/readtif>parse_args	1500	0.107 s	0.080 s	
...:WholeFileCustomReadSplitReader.reset	1501	0.096 s	0.096 s	
onCleanup>onCleanup.delete	1503	0.095 s	0.043 s	
checkInputName	3000	0.092 s	0.078 s	
attributes>@(x)~isempty(x)	9000	0.092 s	0.092 s	
...eArgumentDescriptor>isCharOrString	45000	0.092 s	0.092 s	
pathLookup	1	0.087 s	0.005 s	
ver	1	0.085 s	0.001 s	
...IDimensionManager.get.IntrinsicLimits	18000	0.084 s	0.084 s	
ver>locGetSingleToolboxInfo	1	0.083 s	0.013 s	
imwarp>validateFillValues	4500	0.081 s	0.081 s	
interp1q>linformula	3000	0.080 s	0.080 s	
assert	25712	0.078 s	0.078 s	

pathLookupLocalForDsFileSet	1	0.077 s	0.041 s	
...rmer>ImageTransformer.needToUpdate	1500	0.076 s	0.046 s	
useIPPLibrary	7502	0.069 s	0.069 s	
...leSetFactory.buildFromFileInformation	1	0.068 s	0.004 s	
...ustomReadFileSetSplitter.getFileSizes	1501	0.067 s	0.032 s	
validateNotObject	1500	0.067 s	0.067 s	
...>RemoteToLocalFile.createLocalFile	1500	0.064 s	0.022 s	
prefer_const	21104	0.060 s	0.060 s	
istabular	13521	0.053 s	0.053 s	
...DatastoreImage>@()warning(onState)	1500	0.052 s	0.052 s	
inline	27167	0.052 s	0.052 s	
target	9004	0.051 s	0.051 s	
...ctory>ResolvedFileSetFactory.build	2	0.049 s	0.004 s	
fgetl	1455	0.046 s	0.046 s	
...t;CompressedFileSet.CompressedFileSet	2	0.044 s	0.007 s	
isIRI	1502	0.043 s	0.043 s	
...t;CustomReadDatastore.initFromReadFcn	1	0.041 s	0.003 s	
imread>parse_inputs	1500	0.040 s	0.040 s	
...ransformation.GeometricTransformation	6063	0.039 s	0.039 s	
ippl	3002	0.039 s	0.019 s	
imwarp>checkImageAgreementWithTform	4500	0.036 s	0.036 s	
imwarp>checkFillValues	4500	0.035 s	0.035 s	
...t.DsFileSet>DsFileSet.getFileSizes	1501	0.034 s	0.020 s	
ImageDatastore.reset	1	0.033 s	0.002 s	
...Reader.WholeFileCustomReadSplitReader	1501	0.032 s	0.022 s	
ismissingKernel>arraySwitch	4500	0.031 s	0.031 s	
str2double	905	0.030 s	0.030 s	
...ategorical>categorical.categorical	1	0.029 s	0.016 s	
onCleanup>onCleanup.onCleanup	1503	0.029 s	0.029 s	
...nableFileSetLabels.getLabelUsingIndex	1500	0.029 s	0.017 s	
scalarExpandFillValues	1500	0.029 s	0.029 s	

imwarp>@(ref)isa(ref,'imref2d')	4500	0.029 s	0.029 s	
mean>mysize	3000	0.028 s	0.028 s	
...Datastore>FileBasedDatastore.reset	1	0.027 s	0.001 s	
cell.unique	4	0.027 s	0.009 s	
...atastore>SplittableDatastore.reset	1	0.026 s	0.003 s	
...LocalFile>RemoteToLocalFile.delete	1500	0.024 s	0.014 s	
DsFileSet.DsFileSet>DsFileSet.DsFileSet	1	0.023 s	0.002 s	
cell.intersect	1	0.023 s	0.004 s	
ispc	3003	0.022 s	0.022 s	
...ressedFileSet.setInitialInternalPaths	1	0.022 s	0.002 s	
splitapply	1	0.022 s	0.007 s	
cell.strcat	3	0.021 s	0.019 s	
imwarp>isProblemSizeTooBig	4500	0.020 s	0.020 s	
checkImageSize	1500	0.020 s	0.016 s	
...re>SplittableDatastore.moveToSplit	1	0.020 s	0.003 s	
ver>locParseContentsFiles	1	0.020 s	0.007 s	
imagesci/private/getFileFromURL	1500	0.019 s	0.019 s	
imagesci/private/readtif>process_region	1500	0.019 s	0.019 s	
...Datastore>ImageDatastore.get.Files	1	0.018 s	0.001 s	
cell.intersect>cellintersectlegacy	1	0.017 s	0.006 s	
CompressedFileSet>iCreateInternalPaths	3	0.017 s	0.011 s	
...ableFileSet.GetFilesAsCellStrAndCache	1	0.017 s	0.002 s	
interp1	2	0.016 s	0.007 s	
imregconfig	1	0.016 s	0.002 s	
ImageTransformer>ImageTransformer.update	1	0.016 s	0.004 s	
strlength	3004	0.015 s	0.015 s	
...leSet>ResolvedFileSet.getFileSizes	1501	0.014 s	0.014 s	
DsFileSet.DsFileSet>iParseNameValues	1	0.013 s	0.005 s	
ver>locGetContentsListFromPath	1	0.012 s	0.002 s	
...atastore>ImageDatastore.get.Labels	1500	0.012 s	0.012 s	
isdatetime	3000	0.012 s	0.012 s	

cell.unique>celluniqueR2012a	2	0.011 s	0.011 s	
nullcopy	1500	0.011 s	0.011 s	
...former>ImageTransformer.computeMap	1	0.011 s	0.009 s	
SplitReader>SplitReader.SplitReader	1501	0.010 s	0.010 s	
...t;RemoteToLocalFile.deleteIfLocalCopy	1500	0.010 s	0.010 s	
...entDescent.RegularStepGradientDescent	1	0.009 s	0.006 s	
fullfile	2	0.009 s	0.006 s	
...re.ImageDatastore>iParseNameValues	1	0.009 s	0.003 s	
isduration	3000	0.009 s	0.009 s	
unique	1	0.008 s	0.002 s	
imagesci/private/readtif>check_info	1500	0.008 s	0.008 s	
ver>locParseLineFromFile	6	0.008 s	0.003 s	
istimetable	3000	0.008 s	0.008 s	
interp1>parseinputs	2	0.007 s	0.006 s	
...ileRoots.set.AlternateFileSystemRoots	2	0.007 s	0.004 s	
splitapply>localsplit	1	0.007 s	0.005 s	
isCharVector	1501	0.007 s	0.007 s	
cell.unique>celluniquelegacy	2	0.006 s	0.005 s	
DsFileSet.DsFileSet>iValidateSplitSize	1	0.006 s	0.002 s	
unique>uniqueR2012a	1	0.006 s	0.006 s	
...@(x)iSplitFullFile(x,originalFileSep)	19	0.006 s	0.001 s	
splitapply>localapply	1	0.005 s	0.005 s	
...eFileCustomReadFileSetSplitter.create	1	0.005 s	0.001 s	
parseArgs	1	0.005 s	0.005 s	
...sedFileSet>CompressedFileSet.reset	5	0.005 s	0.002 s	
...et>ResolvedFileSet.ResolvedFileSet	2	0.005 s	0.005 s	
CompressedFileSet>iSplitFullFile	19	0.005 s	0.005 s	
...tastore>SplittableDatastore.delete	1	0.004 s	0.004 s	
...t;ImageDatastore.getDefaultExtensions	1	0.004 s	0.001 s	
...CustomReadDatastore.set.SplitterName	1	0.004 s	0.002 s	
...er.WholeFileCustomReadFileSetSplitter	1	0.004 s	0.002 s	

...stomReadDatastore.CustomReadDatastore	1	0.003 s	0.001 s	
...eFileSet>SubasgnableFileSet.reset	1	0.003 s	0.001 s	
...atastore>ImageDatastore.set.Labels	1	0.002 s	0.002 s	
fullfile>refinePath	2	0.002 s	0.001 s	
partialMatchString	4	0.002 s	0.002 s	
pathLookup>isIncludeSubfoldersLogical	1	0.002 s	0.001 s	
...aParametersImpl.checkRadialDistortion	1	0.002 s	0.001 s	
cellstr	6	0.002 s	0.002 s	
ResolvedFileSet>ResolvedFileSet.reset	5	0.002 s	0.002 s	
isConcreteSubclassOf	1	0.002 s	0.002 s	
interp1>reshapeAndSortXandV	2	0.002 s	0.002 s	
...>ImageTransformer.ImageTransformer	1	0.002 s	0.002 s	
Splitter>Splitter.get.NumSplits	1	0.002 s	0.001 s	
...FileBasedDatastore.FileBasedDatastore	1	0.002 s	0.001 s	
meshgrid	1	0.002 s	0.002 s	
splitapply>getVarRows	19	0.002 s	0.002 s	
ver>locCleanDate	1	0.002 s	0.002 s	
validatePaths	1	0.002 s	0.002 s	
fullfile>ensureTrailingFilesep	1	0.002 s	0.000 s	
interp1>sanitycheckmethod	2	0.002 s	0.002 s	
...astore>ImageDatastore.set.ReadSize	1	0.001 s	0.001 s	
cell.unique>localcat	4	0.001 s	0.001 s	
splitapply>expandVariables	1	0.001 s	0.001 s	
validateCustomReadFcn	1	0.001 s	0.001 s	
validateLogicalOption	1	0.001 s	0.001 s	
...tformFileRoots.updateFilesFromPathMap	2	0.001 s	0.001 s	
imformats	1	0.001 s	0.001 s	
filesep	36	0.001 s	0.001 s	
...omReadFileSetSplitter.updateNumSplits	2	0.001 s	0.001 s	
ver>locRemoveUnwantedEntries	1	0.001 s	0.001 s	
fullfile>addTrailingFileSep	1	0.001 s	0.001 s	

...t;FileBasedSplitter.FileBasedSplitter	1	0.001 s	0.001 s	
ver>locRemoveUnwantedFixPointEntries	1	0.001 s	0.001 s	
ResolvedFileSetFactory>iGetFolderNames	1	0.001 s	0.001 s	
validateNonTableLabels	1	0.001 s	0.001 s	
...escent.set.GradientMagnitudeTolerance	1	0.001 s	0.001 s	
...ameraParametersImpl.checkEstimateSkew	1	0.001 s	0.001 s	
...littableDatastore.SplittableDatastore	1	0.001 s	0.001 s	
...leSetLabels.SubsasgnableFileSetLabels	1	0.001 s	0.001 s	
shiftdim	1	0.001 s	0.001 s	
fullfile>replaceMultipleFileSeps	1	0.001 s	0.001 s	
...gularStepGradientDescent.set.Minimize	1	0.001 s	0.001 s	
CompressedFileSet>iFindCorrectFileSep	1	0.001 s	0.001 s	
...gt;CameraParametersImpl.set.ImageSize	1	0.001 s	0.001 s	
...e>ImageDatastore.resetBatchReading	1	0.001 s	0.001 s	
validateLogical	2	0.001 s	0.001 s	
...et>SubsasgnableFileSet.getNumFiles	1	0.001 s	0.001 s	
...>iValidateAlternateFileSystemRoots	2	0.001 s	0.001 s	
splitapply>emptyGroups	1	0.001 s	0.001 s	
DsFileSet.DsFileSet>DsFileSet.reset	1	0.001 s	0.001 s	
...ossPlatformFileRoots.isSetFromLoadObj	4	0.001 s	0.001 s	
...t.DsFileSet>DsFileSet.get.NumFiles	5	0.001 s	0.001 s	
...e>SplittableDatastore.set.Splitter	1	0.001 s	0.001 s	
splitapply>@(ii){ii}	19	0.001 s	0.001 s	
...wantedHideable.HandleUnwantedHideable	2	0.001 s	0.001 s	
...e.ImageDatastore>iValidateReadSize	1	0.001 s	0.001 s	
...leSet>DsFileSet.setInternalFileSet	1	0.001 s	0.001 s	
validateFileExtensions	1	0.001 s	0.001 s	
interp1>reshapeValuesV	2	0.001 s	0.001 s	
NumelOverride>NumelOverride.numel	1	0.001 s	0.001 s	
...atastore>ImageDatastore.getFileSet	3	0.001 s	0.001 s	
ver>@()fclose(fid)	3	0.001 s	0.001 s	

...:CameraParametersImpl.checkWorldUnits	1	0.000 s	0.000 s	
...ParametersImpl.computeUndistortBounds	1	0.000 s	0.000 s	
@ImageDatastore/private/isSupportedIRI	1	0.000 s	0.000 s	
ver>locGetMatlabToolboxLocation	4	0.000 s	0.000 s	
categorical.categorical>removeUtil	1	0.000 s	0.000 s	
isNumLogical	1	0.000 s	0.000 s	
...LocalForDsFileSet>@(x){vertcat(x)}	19	0.000 s	0.000 s	
...t:CameraParametersImpl.checkImageSize	2	0.000 s	0.000 s	
...pGradientDescent.set.RelaxationFactor	1	0.000 s	0.000 s	
...RegularStepGradientDescent.set.Scales	1	0.000 s	0.000 s	
...GradientDescent.set.MaximumIterations	1	0.000 s	0.000 s	
...GradientDescent.set.MaximumStepLength	1	0.000 s	0.000 s	
...GradientDescent.set.MinimumStepLength	1	0.000 s	0.000 s	
...arametersImpl.checkReprojectionErrors	1	0.000 s	0.000 s	
...categorical>categorical.castCodes	1	0.000 s	0.000 s	
...CameraParametersImpl.checkWorldPoints	1	0.000 s	0.000 s	
...tformFileRoots.CrossPlatformFileRoots	2	0.000 s	0.000 s	
...raParametersImpl.checkRotationVectors	1	0.000 s	0.000 s	
...raParametersImpl.checkNumRadialCoeffs	1	0.000 s	0.000 s	
pathsep	1	0.000 s	0.000 s	
...arametersImpl.checkTranslationVectors	1	0.000 s	0.000 s	
ver>locInitializeVerStruct	1	0.000 s	0.000 s	
...eraParametersImpl.get.IntrinsicMatrix	1	0.000 s	0.000 s	
...mpl.checkEstimateTangentialDistortion	1	0.000 s	0.000 s	
...raParametersImpl.checkIntrinsicMatrix	1	0.000 s	0.000 s	
...ametersImpl.checkTangentialDistortion	1	0.000 s	0.000 s	
extrinsic	1	0.000 s	0.000 s	
...forceScalarHandle.EnforceScalarHandle	1	0.000 s	0.000 s	
...erride>NumelOverride.NumelOverride	1	0.000 s	0.000 s	
Splitter>Splitter.Splitter	1	0.000 s	0.000 s	
...eBasedDatastore.convertFileSetToFiles	1	0.000 s	0.000 s	

MeanSquares>MeanSquares.MeanSquares	1	0.000 s	0.000 s	
Datastore>Datastore.Datastore	1	0.000 s	0.000 s	
...bsasgnableFileSet.SubsasgnableFileSet	1	0.000 s	0.000 s	
Shuffleable>Shuffleable.Shuffleable	1	0.000 s	0.000 s	
...leBasedSupport.HadoopFileBasedSupport	1	0.000 s	0.000 s	

Self time is the time spent in a function excluding the time spent in its child functions. Self time also includes overhead resulting from the process of profiling.