

# Project Supported Transformations

## Scientific

| Domain    | Tool                                                                        | Type       | Description                                                                                                                                   | Repositories                                                                                                                                                                                                                            | Contact                                                                                                                                                      |
|-----------|-----------------------------------------------------------------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hydrology | <b>Advection Diffusion</b>                                                  |            | Solve a general advection-dispersion equation.                                                                                                |                                                                                                                                                                                                                                         | Dong Kook Woo<br><br>Sandeep Puthanveetil Satheesan                                                                                                          |
|           | <b>Chemical Mean Age</b>                                                    | Extract or | Determine the mean age of chemical constituents with inputs of chemical dynamics.                                                             |                                                                                                                                                                                                                                         | Dong Kook Woo<br><br>Sandeep Puthanveetil Satheesan                                                                                                          |
|           | <b>Document Tables Extractor</b> (ncsa.nlp.wordtables)                      | Extract or | Extract tables from documents.                                                                                                                | <a href="https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-nlp/browse/WordTablesExtractor">https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-nlp/browse/WordTablesExtractor</a> |                                                                                                                                                              |
|           | <b>GDAL</b> (ncsa.geo.shpExtractor)                                         | Extract or |                                                                                                                                               | <a href="https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-geo/browse">https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-geo/browse</a>                                         | Smruti Padhy<br>Jong Lee                                                                                                                                     |
|           | <b>GDAL</b> (ncsa.geo.tiffExtractor)                                        | Extract or |                                                                                                                                               | <a href="https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-geo/browse">https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-geo/browse</a>                                         | Smruti Padhy<br>Jong Lee                                                                                                                                     |
|           | <b>GDAL</b> (ncsa.image.geotiff)                                            | Extract or |                                                                                                                                               | <a href="https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-geotiff/browse">https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-geotiff/browse</a>                                 | Mostafa Elag<br>Jong Lee                                                                                                                                     |
|           | <b>Historical River Extractor</b> (ncsa.cv.river)                           | Extract or | Extract the river networks from the ancient hand-drawing maps and compare them with current river networks                                    | <a href="https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-cv/browse/river">https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-cv/browse/river</a>                               | Qina Yan                                                                                                                                                     |
|           | <b>Normalized Difference Vegetation Index</b> (ncsa.arccgis.landsat7mosaic) | Extract or |                                                                                                                                               | <a href="https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-bd-cz/browse/ndviextractor">https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-bd-cz/browse/ndviextractor</a>         | Smruti Padhy                                                                                                                                                 |
|           | <b>River Chi Index</b>                                                      | Extract or | Identify the river dynamics in a river basin and evaluate human activities' influences through Chi index in the streams.                      | <a href="https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-bd-cz/browse/chi-analysis">https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-bd-cz/browse/chi-analysis</a>           | Qina Yan<br><br>Sandeep Puthanveetil Satheesan                                                                                                               |
|           | <b>River Sinuosity</b>                                                      | Extract or | Study the maturity and equilibrium conditions of a stream through the sinuosity index.                                                        |                                                                                                                                                                                                                                         | Qina Yan<br><br>Sandeep Puthanveetil Satheesan                                                                                                               |
|           | <b>Soil Moisture Change</b>                                                 | Extract or | Determine role of hydraulic redistribution in AZ (riparian site / upland site) by studying soil moisture change throughout different seasons. |                                                                                                                                                                                                                                         | Esther Lee ( <a href="mailto:estherl2010@gmail.com">estherl2010@gmail.com</a> )<br><br>Sandeep Puthanveetil Satheesan                                        |
|           | <b>Species Classifier</b>                                                   | Extract or | SAM based Species Classification from <b>Hyperspectral</b> data, Hyperspectral Indices, NDVI, SAVI, MSAVI, etc.                               |                                                                                                                                                                                                                                         | Debsunder Dutta ( <a href="mailto:debsunderdutta@gmail.com">debsunderdutta@gmail.com</a> ) <i>leaving in July 2016</i><br><br>Sandeep Puthanveetil Satheesan |
|           | <b>TerEx</b> (ncsa.arccgis.floodplain)                                      | Extract or | Identify the flat polygons and the heights inside a river valley.                                                                             | <a href="https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-bd-cz/browse/terex_floodplain">https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-bd-cz/browse/terex_floodplain</a>   | Qina Yan<br>Smruti Padhy                                                                                                                                     |
|           | <b>Topographic Depressions</b>                                              | Extract or | Identify topographic depressions (TDs) and their distribution on landscape (Number, location, area, volume of TDs).                           | <a href="https://github.com/HydroComplexity/TDI">https://github.com/HydroComplexity/TDI</a>                                                                                                                                             | Phong Le<br><br>Sandeep Puthanveetil Satheesan                                                                                                               |

|                |                                |               |                                                                                                                                                                                                                               |                                                                                                                                                                                                     |                                                                                                                                                              |
|----------------|--------------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                | <b>Tree Delineation</b>        | Convert<br>er | Tree-wise voxelization of waveform data for <b>lidar</b> metrics that describes canopy structure (max intensity, height, etc...). Individual tree delineation, tree leaf area density to describe vertical leaf distribution. | <a href="https://opensource.ncsa.illinois.edu/bitbucket/projects/BD/repos/ir-lidar/browse">https://opensource.ncsa.illinois.edu/bitbucket/projects/BD/repos/ir-lidar/browse</a>                     | Kunxuan Wang<br><br>Sandeep Puthanveetil Satheesan                                                                                                           |
|                | <b>Valley Safety Zones</b>     | Extract<br>or | Estimate submerging areas and water depths under extreme floods and map the safety zones in a river valley.                                                                                                                   |                                                                                                                                                                                                     | Qina Yan<br><br>Sandeep Puthanveetil Satheesan                                                                                                               |
|                | <b>Vegetation Indices</b>      | Extract<br>or | Calculating vegetation indices such as NDVI and Surface Temperature from Landsat 7 and 8 <b>satellite</b> data.                                                                                                               |                                                                                                                                                                                                     | Debsunder Dutta ( <a href="mailto:debsunderdutta@gmail.com">debsunderdutta@gmail.com</a> ) <i>leaving in July 2016</i><br><br>Sandeep Puthanveetil Satheesan |
| <b>Ecology</b> | <b>netcdf</b> (ncdump)         | Convert<br>er | Convert from binary netcdf to text.                                                                                                                                                                                           | <a href="https://opensource.ncsa.illinois.edu/bitbucket/projects/POL/repos/converters-ncdump/browse">https://opensource.ncsa.illinois.edu/bitbucket/projects/POL/repos/converters-ncdump/browse</a> | Kenton McHenry                                                                                                                                               |
|                | <b>PEcAn</b> (PEcAn#Ameriflux) | Convert<br>er | Convert Ameriflux data to PEcAn's netcdf CF format.                                                                                                                                                                           | <a href="https://opensource.ncsa.illinois.edu/bitbucket/projects/POL/repos/converters-pecan/browse">https://opensource.ncsa.illinois.edu/bitbucket/projects/POL/repos/converters-pecan/browse</a>   | Rob Kooper<br>Kenton McHenry                                                                                                                                 |
|                | <b>PEcAn</b> (PEcAn#DALEC)     | Convert<br>er | Convert PEcAn's netcdf CF format to the format required by the DALEC model.                                                                                                                                                   | <a href="https://opensource.ncsa.illinois.edu/bitbucket/projects/POL/repos/converters-pecan/browse">https://opensource.ncsa.illinois.edu/bitbucket/projects/POL/repos/converters-pecan/browse</a>   | Rob Kooper<br>Kenton McHenry                                                                                                                                 |
|                | <b>PEcAn</b> (PEcAn#ED2)       | Convert<br>er | Convert PEcAn's netcdf CF format to the format required by the ED model.                                                                                                                                                      | <a href="https://opensource.ncsa.illinois.edu/bitbucket/projects/POL/repos/converters-pecan/browse">https://opensource.ncsa.illinois.edu/bitbucket/projects/POL/repos/converters-pecan/browse</a>   | Rob Kooper<br>Kenton McHenry                                                                                                                                 |
|                | <b>PEcAn</b> (PEcAn#LINKAGES)  | Convert<br>er | Convert PEcAn's netcdf CF format to the format required by the LINKAGES model.                                                                                                                                                | <a href="https://opensource.ncsa.illinois.edu/bitbucket/projects/POL/repos/converters-pecan/browse">https://opensource.ncsa.illinois.edu/bitbucket/projects/POL/repos/converters-pecan/browse</a>   | Rob Kooper<br>Kenton McHenry                                                                                                                                 |
|                | <b>PEcAn</b> (PEcAn#Sipnet)    | Convert<br>er | Convert PEcAn's netcdf CF format to the format required by the Sipnet model.                                                                                                                                                  | <a href="https://opensource.ncsa.illinois.edu/bitbucket/projects/POL/repos/converters-pecan/browse">https://opensource.ncsa.illinois.edu/bitbucket/projects/POL/repos/converters-pecan/browse</a>   | Rob Kooper<br>Kenton McHenry                                                                                                                                 |

|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |               |                                                                                            |                                                                                                                                                                                                                                                         |                                  |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|--------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
|                                         | <b>PEcAn</b><br>(PEcAn#AmerifluxB<br>NL)<br><br><b>PEcAn</b><br>(PEcAn#FLUXNET2<br>015)<br><br><b>PEcAn</b><br>(PEcAn#FACE)<br><br><b>PEcAn</b><br>(PEcAn#PALEON)<br><br><b>PEcAn</b><br>(PEcAn#NLDAS)<br><br><b>PEcAn</b><br>(PEcAn#CURNCEP)<br><br><b>PEcAn</b><br>(PEcAn#GLDAS)<br><br><b>PEcAn</b><br>(PEcAn#GFDL)<br><br><b>PEcAn</b><br>(PEcAn#BIOCRO)<br><br><b>PEcAn</b><br>(PEcAn#CLM)<br><br><b>PEcAn</b><br>(PEcAn#GDAY)<br><br><b>PEcAn</b><br>(PEcAn#JULES)<br><br><b>PEcAn</b><br>(PEcAn#LPJ-<br>GUESS)<br><br><b>PEcAn</b><br>(PEcAn#MAAT)<br><br><b>PEcAn</b><br>(PEcAn#MAESPA)<br><br><b>PEcAn</b><br>(PEcAn#PRELES) |               |                                                                                            |                                                                                                                                                                                                                                                         | Yan Zhao<br><br>Rob Kooper       |
|                                         | <b>PlantCV</b> (terra.<br>plantcv)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Extract<br>or | Extract plant height, area, and color distribution from<br>photographs.                    | <a href="https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-plantcv/browse">https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-plantcv/browse</a>                                                 | Yan Liu                          |
| Civil &<br>Environmental<br>Engineering | <b>Body of Water<br/>Detector</b> (ncsa.<br>image.ponddetect)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Extract<br>or | Land coverage, extract locations of bodies of water from s<br>atellite data.               | <a href="https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-maps/browse/feature_detection">https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-maps/browse/feature_detection</a>                   | Ankit Rai<br><br>Marcus Slavenas |
|                                         | <b>GI Identification</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Extract<br>or |                                                                                            |                                                                                                                                                                                                                                                         | Ankit Rai<br><br>Marcus Slavenas |
|                                         | <b>Human Preference<br/>Score</b> (ncsa.image.<br>humanpref)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Extract<br>or | Assign a model derived human preference score to a<br>given image of an urban environment. | <a href="https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-maps/browse/humanpref">https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-maps/browse/humanpref</a>                                   | Ankit Rai<br><br>Marcus Slavenas |
|                                         | <b>Route Greenness</b><br>(ncsa.xml.<br>greenindexroute)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Extract<br>or | Derive the green index of a city route.                                                    | <a href="https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-maps/browse/greenroute">https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-maps/browse/greenroute</a>                                 | Marcus Slavenas                  |
|                                         | <b>Social Media GI<br/>Preferences</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Extract<br>or |                                                                                            |                                                                                                                                                                                                                                                         | Ankit Rai<br><br>Marcus Slavenas |
|                                         | <b>Stanford CoreNLP<br/>- Sentiment</b> (ncsa.<br>nlp.SNLPSentiment)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Extract<br>or | Assign a sentiment score to a piece of text.                                               | <a href="https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-nlp/browse/SNLP/SNLPSentimentExtractor">https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-nlp/browse/SNLP/SNLPSentimentExtractor</a> | Ankit Rai<br><br>Marcus Slavenas |
|                                         | <b>TUV Triaxus</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Extract<br>or |                                                                                            |                                                                                                                                                                                                                                                         | Ankit Rai<br><br>Marcus Slavenas |

|                             |                                                                |            |                                                                                                                                       |                                                                                                                                                                                                                                                 |                                |
|-----------------------------|----------------------------------------------------------------|------------|---------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| Social Science & Humanities | <b>Bertillon Card Cell Extractor</b> (ncaa.image.dmp)          | Extract or | Extract table cells from a Bertillon Card.                                                                                            | <a href="https://opensource.ncaa.illinois.edu/bitbucket/projects/DEBOD/repos/extractors-debod">https://opensource.ncaa.illinois.edu/bitbucket/projects/DEBOD/repos/extractors-debod</a>                                                         | Sandeep Puthanveetil Satheesan |
|                             | <b>Census Form Cell Extractor</b> (census-section-segmentor)   | Extract or | Extract table cells from a 1930s Census form.                                                                                         | <a href="https://opensource.ncaa.illinois.edu/bitbucket/projects/CATS/repos/extractors-cv/browse/census">https://opensource.ncaa.illinois.edu/bitbucket/projects/CATS/repos/extractors-cv/browse/census</a>                                     | Inna Zharnitsky                |
|                             | <b>Handwritten Decimals Extractor</b> (ncaa.image.sphog.debod) | Extract or | Extract handwritten decimal values from an image.                                                                                     | <a href="https://opensource.ncaa.illinois.edu/bitbucket/projects/DEBOD/repos/extractors-handwrittendecimals">https://opensource.ncaa.illinois.edu/bitbucket/projects/DEBOD/repos/extractors-handwrittendecimals</a>                             | Sandeep Puthanveetil Satheesan |
|                             | <b>Killed Photos</b> (ncaa.image.iarp_remove_circle)           | Extract or | Identify depression era photos "killed" by Farm Security Administration director Roy Stryker, indicated by a hole punch in the image. | <a href="https://opensource.ncaa.illinois.edu/bitbucket/projects/IARP/repos/image_fetcher/browse/extractors/remove_circle">https://opensource.ncaa.illinois.edu/bitbucket/projects/IARP/repos/image_fetcher/browse/extractors/remove_circle</a> | Marcus Slavenas                |
|                             | <b>Mean Grey</b> (ncaa.cv.meangrey)                            | Extract or | Mean grey values of black and white photos.                                                                                           | <a href="https://opensource.ncaa.illinois.edu/bitbucket/projects/IARP/repos/image_fetcher/browse/extractors/mean_grey">https://opensource.ncaa.illinois.edu/bitbucket/projects/IARP/repos/image_fetcher/browse/extractors/mean_grey</a>         | Marcus Slavenas                |
|                             | <b>Movie Slice</b> (ncaa.movieslice)                           | Extract or |                                                                                                                                       | <a href="https://opensource.ncaa.illinois.edu/bitbucket/projects/CATS/repos/extractors-movieslice/browse">https://opensource.ncaa.illinois.edu/bitbucket/projects/CATS/repos/extractors-movieslice/browse</a>                                   | Sandeep Puthanveetil Satheesan |
|                             | <b>Person Detector</b> (person-detector)                       | Extract or | Extract locations of people in an image.                                                                                              | <a href="https://opensource.ncaa.illinois.edu/bitbucket/projects/CATS/repos/extractors-person-detector">https://opensource.ncaa.illinois.edu/bitbucket/projects/CATS/repos/extractors-person-detector</a>                                       | Sandeep Puthanveetil Satheesan |
|                             | <b>Person Tracker</b> (ncaa.person-tracker)                    | Extract or | Extract locations and paths of people moving in videos.                                                                               | <a href="https://opensource.ncaa.illinois.edu/bitbucket/projects/CATS/repos/extractors-person-tracking">https://opensource.ncaa.illinois.edu/bitbucket/projects/CATS/repos/extractors-person-tracking</a>                                       | Sandeep Puthanveetil Satheesan |
|                             | <b>Video Analytics Toolbox</b> (ncaa.cinemetrics_batch)        | Extract or | Extract shot descriptors from videos.                                                                                                 | <a href="https://opensource.ncaa.illinois.edu/bitbucket/projects/CATS/repos/extractors-lsva-integrated/browse">https://opensource.ncaa.illinois.edu/bitbucket/projects/CATS/repos/extractors-lsva-integrated/browse</a>                         | Sandeep Puthanveetil Satheesan |
| Biology, Genomics, Medicine | <b>FSL</b> (mri2mesh)                                          | Extract or |                                                                                                                                       | <a href="https://opensource.ncaa.illinois.edu/bitbucket/projects/CATS/repos/extractors-mri/browse/mri2mesh">https://opensource.ncaa.illinois.edu/bitbucket/projects/CATS/repos/extractors-mri/browse/mri2mesh</a>                               | Marcus Slavenas                |
|                             | <b>Glomeruli</b> (ncaa.msc.diagnosis)                          | Extract or | Extract glomeruli from Kidney biopsy images.                                                                                          | <a href="https://opensource.ncaa.illinois.edu/bitbucket/projects/CATS/repos/extractors-msc/browse/Kidney">https://opensource.ncaa.illinois.edu/bitbucket/projects/CATS/repos/extractors-msc/browse/Kidney</a>                                   | Yan Zhao                       |

## General

| Domain | Tool                                       | Type       | Description                                                   | Repositories                                                                                                                                                                                                                          | Contact                       |
|--------|--------------------------------------------|------------|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
|        | <b>Calibre</b> (ebook-converter)           | Convert er | Convert e-books to a number of document formats.              | <a href="https://opensource.ncaa.illinois.edu/bitbucket/projects/POL/repos/converters-ebook-convert/browse">https://opensource.ncaa.illinois.edu/bitbucket/projects/POL/repos/converters-ebook-convert/browse</a>                     |                               |
|        | <b>CMU Sphinx</b> (ncaa.audio.speech2text) | Extract or | Audio recognition to extract text for speech within audio.    | <a href="https://opensource.ncaa.illinois.edu/bitbucket/projects/CATS/repos/extractors-core/browse/audio/speech2text">https://opensource.ncaa.illinois.edu/bitbucket/projects/CATS/repos/extractors-core/browse/audio/speech2text</a> | Marcus Slavenas               |
|        | <b>Daffodil</b> (daffodil)                 | Convert er | Convert formats with a provided DFDL schema to XML.           | <a href="https://opensource.ncaa.illinois.edu/bitbucket/projects/POL/repos/converters-daffodil/browse">https://opensource.ncaa.illinois.edu/bitbucket/projects/POL/repos/converters-daffodil/browse</a>                               | Kenton McHenry                |
|        | <b>DBPedia</b> (ncaa.dbpedia)              | Extract or | Find and define named entities within the given text.         | <a href="https://opensource.ncaa.illinois.edu/bitbucket/projects/CATS/repos/extractors-dbpedia/browse">https://opensource.ncaa.illinois.edu/bitbucket/projects/CATS/repos/extractors-dbpedia/browse</a>                               | Luigi Marini                  |
|        | <b>FFmpeg</b> (ffmpeg)                     | Convert er | Convert between a large number of video formats.              | <a href="https://opensource.ncaa.illinois.edu/bitbucket/projects/POL/repos/converters-ffmpeg/browse">https://opensource.ncaa.illinois.edu/bitbucket/projects/POL/repos/converters-ffmpeg/browse</a>                                   | Marcus Slavenas<br>Bing Zhang |
|        | <b>FLAC</b> (flac)                         | Convert er | Convert to and from the FLAC format from other audio formats. | <a href="https://opensource.ncaa.illinois.edu/bitbucket/projects/POL/repos/converters-flac/browse">https://opensource.ncaa.illinois.edu/bitbucket/projects/POL/repos/converters-flac/browse</a>                                       | Bing Zhang                    |
|        | <b>Ghostscript</b> (ghostscript)           | Convert er | Convert between document formats.                             | <a href="https://opensource.ncaa.illinois.edu/bitbucket/projects/POL/repos/converters-ghostscript/browse">https://opensource.ncaa.illinois.edu/bitbucket/projects/POL/repos/converters-ghostscript/browse</a>                         | Bing Zhang                    |
|        | <b>htmldoc</b> (htmldoc)                   | Convert er | Convert HTML to a number of document formats.                 | <a href="https://opensource.ncaa.illinois.edu/bitbucket/projects/POL/repos/converters-htmldoc/browse">https://opensource.ncaa.illinois.edu/bitbucket/projects/POL/repos/converters-htmldoc/browse</a>                                 | Kenton McHenry                |
|        | <b>ImageMagick</b> (ImageMagick)           | Convert er | Convert between a large number of image formats.              | <a href="https://opensource.ncaa.illinois.edu/bitbucket/projects/POL/repos/converters-imagemagick/browse">https://opensource.ncaa.illinois.edu/bitbucket/projects/POL/repos/converters-imagemagick/browse</a>                         | Kenton McHenry                |

|         |                                                        |            |                                                                                                                                     |                                                                                                                                                                                                                                                                                         |                                |
|---------|--------------------------------------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| General | <b>ImageMagick</b><br>(ncsa.image.metadata)            | Extract or | Pull available EXIF image metadata from a given image.                                                                              | <a href="https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-core/browse/image/metadata">https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-core/browse/image/metadata</a>                                                         | Maxwell Burnette<br>Rob Kooper |
|         | <b>Kabeja</b> (kabeja)                                 | Convert er | Convert between a handful of 3D and image formats.                                                                                  | <a href="https://opensource.ncsa.illinois.edu/bitbucket/projects/POL/repos/converters-kabeja/browse">https://opensource.ncsa.illinois.edu/bitbucket/projects/POL/repos/converters-kabeja/browse</a>                                                                                     |                                |
|         | <b>OpenCV - Faces</b><br>(ncsa.cv.faces)               | Extract or | Find faces in an image and return their locations.                                                                                  | <a href="https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-cv/browse/extractors-opencv/extractors-opencv-faces">https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-cv/browse/extractors-opencv/extractors-opencv-faces</a>       | Kenton McHenry                 |
|         | <b>OpenCV - Eyes</b><br>(ncsa.cv.eyes)                 | Extract or | Find eyes in an image and return their locations.                                                                                   | <a href="https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-cv/browse/extractors-opencv/extractors-opencv-eyes">https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-cv/browse/extractors-opencv/extractors-opencv-eyes</a>         | Kenton McHenry                 |
|         | <b>OpenCV - Closeups</b> (ncsa.cv.closeups)            | Extract or | Determine whether an image is a closeup of a person or not.                                                                         | <a href="https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-cv/browse/extractors-opencv/extractors-opencv-closeups">https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-cv/browse/extractors-opencv/extractors-opencv-closeups</a> | Kenton McHenry                 |
|         | <b>OpenCV - Profiles</b> (ncsa.cv.profiles)            | Extract or | Find human face profiles in an image and return their locations.                                                                    | <a href="https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-cv/browse/extractors-opencv/extractors-opencv-profiles">https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-cv/browse/extractors-opencv/extractors-opencv-profiles</a> | Kenton McHenry                 |
|         | <b>Langid</b> (ncsa.nlp.simplelanguage)                | Extract or | Identify the language of the given text.                                                                                            | <a href="https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-nlp/browse/SimpleLanguage">https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-nlp/browse/SimpleLanguage</a>                                                           | Gregory Jansen                 |
|         | <b>LibreOffice</b> (unoconv)                           | Convert er | Convert to and from a variety of document formats.                                                                                  | <a href="https://opensource.ncsa.illinois.edu/bitbucket/projects/POL/repos/converters-unoconv/browse">https://opensource.ncsa.illinois.edu/bitbucket/projects/POL/repos/converters-unoconv/browse</a>                                                                                   | Bing Zhang                     |
|         | <b>NLTK - Summary</b> (ncsa.nlp.simplesummary)         | Extract or | Summarize a body of text.                                                                                                           | <a href="https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-nlp/browse/SimpleSummary">https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-nlp/browse/SimpleSummary</a>                                                             | Gregory Jansen                 |
|         | <b>Siegfried</b> (siegfried)                           | Extract or | Extract information about a given file relevant to identifying its type and validating its format.                                  | <a href="https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-siegfried/browse">https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-siegfried/browse</a>                                                                             | Gregory Jansen                 |
|         | <b>Stanford CoreNLP</b> (ncsa.nlp.SNLP)                | Extract or | Natural Language Process extractions such as parts of speech, named entities, language, etc.                                        | <a href="https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-nlp/browse/SNLP/SNLPExtractor">https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-nlp/browse/SNLP/SNLPExtractor</a>                                                   |                                |
|         | <b>Tesseract</b> (ncsa.image.ocr)                      | Extract or | Object Character Recognition (OCR) to extract text from images containing text.                                                     | <a href="https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-cv/browse/extractors-tesseract">https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-cv/browse/extractors-tesseract</a>                                                 | Kenton McHenry                 |
|         | <b>Tika</b> (ncsa.nlp.tika)                            | Extract or | Document extractions such as language identification, ...                                                                           | <a href="https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-nlp/browse/tika">https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-nlp/browse/tika</a>                                                                               | Kenton McHenry                 |
|         | <b>txt2html</b> (txt2html)                             | Convert er | Convert text documents to HTML.                                                                                                     | <a href="https://opensource.ncsa.illinois.edu/bitbucket/projects/POL/repos/converters-txt2html/browse">https://opensource.ncsa.illinois.edu/bitbucket/projects/POL/repos/converters-txt2html/browse</a>                                                                                 | Kenton McHenry                 |
|         | <b>Versus - Color Distribution</b> (ncsa.versus.image) | Extract or | Generate a distribution of color values within an image to be used for comparing how similar two images are.                        | <a href="https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-versus/browse">https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-versus/browse</a>                                                                                   | Kenton McHenry<br>Bing Zhang   |
|         | <b>VLFeat</b> (ncsa.image.caltech101)                  | Extract or | Classify images as to whether they contain objects from the Caltech101 dataset (e.g. people, airplanes, motorcycles, cougars, ...). | <a href="https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-cv/browse/extractors-vlfeat">https://opensource.ncsa.illinois.edu/bitbucket/projects/CATS/repos/extractors-cv/browse/extractors-vlfeat</a>                                                       | Kenton McHenry                 |
|         | <b>Zip</b> (zip)                                       | Convert er | Unzip zip archives.                                                                                                                 | <a href="https://opensource.ncsa.illinois.edu/bitbucket/projects/POL/repos/converters-zip/browse">https://opensource.ncsa.illinois.edu/bitbucket/projects/POL/repos/converters-zip/browse</a>                                                                                           | Kenton McHenry<br>Bing Zhang   |

<https://opensource.ncsa.illinois.edu/confluence/display/BD/Transformations> (Under development, Being Refactored)