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| **Software** | **URL** | **Multi-Animal?** | **Used on ‘Wild’ Data?** | **Species** | **Tracking Style** | **Notes** |
| ABCTracker | https://www.abctracker.org/ | ✓ |  | Ants, bees, cells, termites, fish, reptiles, robots, pedestrians, other insects, other humans | 3 point tracking | Does not require python to download |
| AlphaTracker | https://github.com/ZexinChen/AlphaTracker | ✓ |  | Mice | Pose estimation & bounding boxes | Available through google colab. Behavioural clustering |
| AnTrax | https://github.com/Social-Evolution-and-Behavior/anTraX | ✓ |  | ants (and other small animals) | ‘Blob’ & centroid | Can track individuals with colour tags. Can track multiple colonies at one time. Made for long duration experiments (many colonies over many days). May need a computer cluster |
| AnyMaze | https://www.any-maze.com/ |  |  | Mice | Entire body (highlighted as a blue mass) & 3 point tracking | Define ‘zones’ as well as animals. Charge to use software. |
| Animapp | https://play.google.com/store/apps/details?id=com.oxford.srao.animapp |  |  | small animals such as rodents or insect larvae | Bounding box & centroid | Does not require python to download.  Calculates distances and speed. Required to put bounding box around first frame of video (no further training frames required) |
| Anipose | https://github.com/lambdaloop/anipose |  |  | Any (Authors tested on flies, mice, humans) | 3D Pose estimation | Uses 2D DeepLabCut predictions |
| APT | https://github.com/kristinbranson/APT | ✓ | ✓ | Any (Authors tested on flies, mice, larva) | Pose  estimation |  |
| Automated Planar Tracking | https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0154714 | ✓ |  | Fish | Chain of rectangles to represent fish bodies. |  |
| BeMovi | http://bemovi.info/ | ✓ |  | Microbes and Larva | Centroid | R package (+java required for install). No ‘training’ required, you just need to set threshold for contrast levels between animal and background. Can track tens of thousands of individuals. |
| Biosense | https://ieeexplore.ieee.org/document/8707411 | ✓ | ✓ | Any (Authors tested on insects, fish tadpoles) | Centroid | Region preference, speed, distance travelled, nearest neighbour distance |
| BioTrack | https://github.com/biotracking/biotrack | ✓ | ✓ | Any (Authors tested on humans, ants, termites) | Bounding box & centroid | Only for linux and Mac. Uses ladar (laser hits) to detect objects of interest so requires multiple lasers set up to cover the experimental area. Real-time tracking Been used in the ‘field’ for humans (football game) and suggests the same could be done for animal tracking. |
| BioTracker | https://github.com/BioroboticsLab/biotracker\_core/wiki | ✓ | ✓ | Any (Authors tested on fish) | Centroid |  |
| Ctrax | http://ctrax.sourceforge.net/install.html#download | ✓ |  | Flies | Ellipses | Estimates the positions and orientations of many walking flies |
| DANNCE | https://github.com/spoonsso/dannce |  |  | Any (focus on rats) | 3D pose estimation | 7 million pre-marked rodent frames. Software can be further trained for other animals |
| DeepBhvTracking | https://github.com/SunGL001/DeepBhvTracking | ✓ |  | Any (Authors tested on mice and marmosets) | Centroid | Can only force multi-animal with physical markers |
| DeepFly3D | https://github.com/NeLy-EPFL/DeepFly3D |  |  | Flies | 3D pose estimation | By default, marks 38 key points |
| DeepLabCut | https://github.com/DeepLabCut/DeepLabCut | ✓ | ✓ | Any (Authors tested on mice, flies, cheetah, humans) | 3D & 2D Pose estimation | Available on Google Collaboratory |
| DeepPoseKit | https://github.com/jgraving/DeepPoseKit | ✓ | ✓ | Any (Authors tested on insects, flies, zebra) | Pose estimation | Can only force multi animal and will not work on novel videos. |
| EthoVision | https://www.noldus.com/ethovision-xt |  |  | Any | Centroid & 3 point tracking | Charge to use. Mark behaviours, heatmaps, zones of interest, gait analysis. Live tracking. Multiple arena tracking. |
| Ethowatcher | https://github.com/EthoWatcher/ethowatcher |  |  | Any (Authors tested on rats) | Centroid | Length and orientation tracking. Frequency and duration of user-defined behaviours |
| FIMTrack | https://github.com/i-git/FIMTrack | ✓ |  | Larva | 3 point tracking | Body bending angles, spine length, distance to stimuli, speed, distance travelled |
| CnnTracker | https://www.nature.com/articles/srep42815 | ✓ |  | Fish | Head tracking | Holds identities |
| FlyTracker | file:///C:/Users/cw266/Downloads/journal.pcbi.1006410.pdf | ✓ |  | Flies | Centroid | Orientation, size, wing and leg positions. |
| Idtracker.ai | https://idtrackerai.readthedocs.io/en/latest/ | ✓ |  | Any (Authors tested on fish, mice, ants, flies) | Centroid | Limit 100 individuals. Numbered individuals |
| IDTracker | https://www.idtracker.es/ | ✓ |  | Any (Authors tested on mice, ants, fish, flies) | Centroid | Uses MATLAB |
| LimeLight | https://actimetrics.com/products/limelight/ |  |  | Mice | Centroid | Multi-arena (max 4). Can train to recognise behaviours. distance between nose to tail base |
| MARGO | https://github.com/de-Bivort-Lab/margo | ✓ |  | Any (Authors tested on lies, bees, worms and zebrafish) | Centroid | Multiple arenas. MATLAB based. Real-time tracking |
| Motr | https://github.com/motr/motr | ✓ |  | Mice | Centroid & Ellipses | Made for long-term tracking (multiple consecutive days). Requires physical markers for multi-animal ID preservation. Orientation. |
| MouseMove | https://www.nature.com/articles/srep16171 |  |  | Mice | Centroid | Can quantify unilateral locomotor deficits  travel distance, speed, turning and curvature of mouse, regions of interest |
| Mouse Tracking | https://github.com/KumarLabJax/MouseTracking |  |  | Mice | Centroid & Ellipses | Tracks speed of object |
| Multi-Animal Tracker | https://github.com/itskov/MultiAnimalTrackerSuite | ✓ |  | Any (Authors tested on worms, flies, fish) | Centroid | Mark animals location on a few frames and the software completes the rest for that video. Uses MATLAB. Tracks speed and direction as well as branching into behavioural recognition |
| Multi-Worm Tracker | https://sourceforge.net/projects/mwt/ | ✓ |  | Worm | Contour, Spine points (inc. head/tail), centroid | Real-time tracking, Tracks speed, direction, distance covered, length and curvature. Does not require python to download |
| OpenMonkeyStudio | https://www.openmonkeystudio.com/ |  |  | Macaques | 3D pose estimation | Requires specific cage apparatus |
| Pathtrackr | https://github.com/aharmer/pathtrackr |  |  | Any (Authors tested on spiders) | ‘blob’, centroid & bounding boxes | Does not require a homogenous background that is always lighter or always darker than the animal Uses R. Tracks direction, distanced moved and velocity. |
| QTrack | https://pubmed.ncbi.nlm.nih.gov/19270697/ | ✓ |  | Flies | ellipses | Orientation and wing posture tracking  Courtship behaviour analysis |
| RAT | https://hackaday.io/project/162481-rodent-arena-tracker-rat |  |  | Rats | Centroid & bounding boxes | Only for rodents with black fur. Requires specialist device. |
| SLEAP | https://github.com/murthylab/sleap | ✓ | ✓ | Any (Authors tested on flies, mice, bees, gerbils) | Pose estimation | Available on Google Collaboratory |
| Spectral time-lapse | https://github.com/cMadan/stl-toolbox |  |  | Any (Authors tested on pigeons, mice, ants) | Centroid | Uses MATLAB. colour maps with animal’s outline which show position at user defined intervals |
| SwisTrack | https://sourceforge.net/projects/swistrack/ | ✓ |  | Any (Authors tested on cockroaches and robots) | Centroid | mixed species tracking in the same frame. Specialised for swarm dynamics. Does not require python to download |
| ToxTrack | https://sourceforge.net/projects/toxtrac/ | ✓ |  | Any (Authors tested on insects, fish, rodents) | Centroid | Does not require python to download. Multiple arenas. Arena coverage, arena heat maps, speed and distance tracking. Only for Windows. |
| Traktor | https://github.com/vivekhsridhar/tracktor | ✓ |  | Any (Authors tested on fish, spiders, termites) | Centroid | Tracks regions of interest, distance, speed, activity, distance to conspecifics. Can track a single individual in a ‘noisy’ laboratory environment |
| Trex | https://github.com/mooch443/trex | ✓ |  | Any (Authors tested on | Pose estimation | Specialised in large number of individuals (eg- swarms and schools). Up to 100 individuals whilst retaining ID, 256 without ID. |
| UMATracker | https://ymnk13.github.io/UMATracker/ | ✓ |  | Any (Authors tested on mice, ants, termites, fish, flies) | Centroid & bounding boxes | Number of individuals in the video must be constant. Regions of interest, Interaction graphs. |
| ZebTrack | https://github.com/borgesnogueira/ZebTrack | ✓ |  | Fish | Centroid | Uses MATLAB. |