

## A.12: Free apps for bioinformatics

Mike's recommended free and/or open-source apps for bioinformatics on macOS or Windows 11 PCs.

### Note:

Chrome OS users: If your device is Intel-based, then it is possible to install many of the apps (or equivalents) listed via activating LINUX on your device. This route is only advisable if you are willing and able to do some pretty serious installation work.

### Statistics

R Core Team (2024). **R**: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL <https://www.R-project.org/>.

[Python programming language](#) and libraries: [panda](#), [Numby](#), [Scipy](#), [Matplotlib](#), [Biopython](#), [PySB](#), and others

### Mathematics software

**GNU Octave**, free and open source, uses similar programming syntax to MATLAB, <https://octave.org/>

**SageMATH**, python based, free and open source alternative to [MATLAB](#) and [Wolfram Mathematica](#), <https://www.sagemath.org/>

### Image, Drawing, Concept & Mind maps, Flow charts

**Newt Editor**, a free, web based, open source viewer and editor for biology pathways, <https://newteditor.org/index.html>

**Draw.io**, used to create work flows, mind maps, <https://app.diagrams.net/>

**FreeCAD**, open source “parametric 3D modeler”, <https://www.freecad.org/>

**GIMP**, GNU Image Manipulation Program, at <https://www.gimp.org/>

**ImageJ2**, JAVA-based, <https://imagej.net/software/imagej2/>

**Krita**, free and open source painting program, <https://krita.org/en/>

**Preview**, macos only

### Video editor

**Shortcut**, at <https://shotcut.org/>

**Handbrake**, at <https://handbrake.fr/>

### Screen recording, Video streaming

**OBS Studio**, at <https://obsproject.com/>

**QuickTimePlayer**, macos only

### Office suite (compatible with Microsoft Word)

**LibreOffice**, at <https://www.libreoffice.org/>

### Reference manager

**Zotero**, <https://www.zotero.org/>

### Digital Notebook

**Jupyter Lab** and Notebooks, python based, web-based computational notebooks. In addition to python, Jupyter supports Julia and R Programming languages as well as Cytoscape, GNU Octave, SageMATH and other software. <https://docs.jupyter.org/en/latest/index.html>

**OneNote**, at <https://www.onenote.com/>

## Bioinformatics tools

**Bioconductor**, at <https://www.bioconductor.org/>

**Unipro UGENE**, at <http://ugene.net/>

**Cytoscape**, at <https://cytoscape.org/>

**MEGA**, at <https://www.megasoftware.net/>

## Coding IDE and code editor

### Jupyter Lab

**Visual Studio** with Python application, Community edition, <https://visualstudio.microsoft.com/vs/features/python/>

Posit team (2024). **RStudio**: Integrated Development Environment for R. Posit Software, PBC, Boston, MA URL <http://www.posit.co/>.

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