

# MATLAB for a Neuroscientist

MATLAB is a programming platform and tool that neuroscientists may use when analyzing and representing data or implementing machine learning (ML).

MATLAB provides a programming platform for scientists and engineers. The MATLAB language is a more matrix- and mathematical-based language, making it more intuitive for many scientists and engineers than many other programming languages.

In particular, MATLAB is a great environment for neuroscientists. You can utilize many built-in functions or draw support from a large community of users as you use MATLAB to analyze and represent your data. Additionally, if your analyses involve machine learning (ML) or if you'd like to utilize ML for another purpose, MATLAB provides some built-in functions and an intuitive environment in which to implement ML.

For some neuroimaging techniques, researchers have built toolboxes, packages, and functions in MATLAB that are publicly available or that you can get from reaching them. For example, for near-infrared spectroscopy (NIRS) brain imaging, a researcher at University of Pittsburgh developed an [analysis toolbox](#) that other labs use as well. You can also write your own analyses for other neuroimaging technologies, cognitive tasks, and other data.

---

## Related information

[Analyze and Represent Data](#)

[Implement Machine Learning \(ML\)](#)