

# NumPy – The Best Learning Resources

There are so many ways to learn about NumPy. This cheat sheet points you to the tutorials, videos, and books we found the most valuable to improve our NumPy skills. Happy Pythoning!

— Brad Solomon & Dan Bader ([realpython.com](https://realpython.com))

## NumPy Tutorials on Real Python

- <https://realpython.com/tutorials/numpy/>

## Useful Sections From the NumPy Docs

- [What is NumPy?](#)
- [Broadcasting](#)
- [Universal Functions](#)
- [NumPy for MATLAB Users](#)
- [The Complete NumPy Reference](#)

## Books

- [Travis Oliphant: Guide to NumPy, 2nd ed.](#)
- [Ivan Idris: Numpy Beginner's Guide, 3rd ed.](#)
- [Jake VanderPlas: Python Data Science Handbook](#)
- [Wes McKinney: Python for Data Analysis, 2nd ed.](#)
- [François Chollet: Deep Learning with Python](#)
- [Robert Johansson: Numerical Python](#)

## Other Online Resources

- [GitHub: NumPy Repository](#)
- [Wikipedia: Array Programming](#)
- [SciPy Lecture Notes: Basic NumPy](#)
- [SciPy Lecture Notes: Advanced NumPy](#)
- [Eric's Broadcasting Doc: Array Broadcasting in NumPy](#)
- [python-course.eu: Numerical Python](#)
- [SciPy Cookbook: Views Versus copies in NumPy](#)
- [Nicolas Rougier: 100 NumPy Exercises](#)
- [Nicolas Rougier: From Python to Numpy](#)
- [Dataquest: NumPy Tutorial](#)
- [DataCamp: NumPy Cheat Sheet](#)
- [TensorFlow: Broadcasting Semantics](#)
- [Theano Docs: Broadcasting](#)
- [Eli Bendersky: Broadcasting Arrays in Numpy](#)
- [HAL: The NumPy Array](#)

# Stack Overflow's Top NumPy Answerers

- Alex Riley
- ali\_m
- askewchan
- Divakar
- DSM
- Fred Foo
- hpaulj
- HYRY
- Jaime
- Joe Kington
- JoshAdel
- MSeifert
- NPE
- Paul Panzer
- piRSquared
- Psidom
- pv.
- Saullo Castro
- Sven Marnach
- unutbu
- user2357112
- Warren Weckesser