



Marine Data Literacy Course

Data Harvesting and Data Harnessing

Practical Introduction

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Outline

- ▶ Download Python and Anaconda
- ▶ Install Libraries
 - ▶ netCDF4
 - ▶ Matplotlib
 - ▶ Scipy
 - ▶ Numpy
- ▶ Load Jupyter Notebook
- ▶ Test provided Notebook and Data

Python and Anaconda

- ▶ Python is an interpreted high-level general-purpose programming language.
- ▶ Its design philosophy emphasizes code readability with its use of significant indentation.
- ▶ Its language constructs as well as its object-oriented approach aim to help programmers write clear, logical code for small and large-scale projects.
- ▶ Anaconda is a distribution of the Python language for scientific computing (data science, machine learning applications, large-scale data processing, predictive analytics, etc.)
- ▶ The distribution includes data-science packages suitable for Windows, Linux, and macOS.

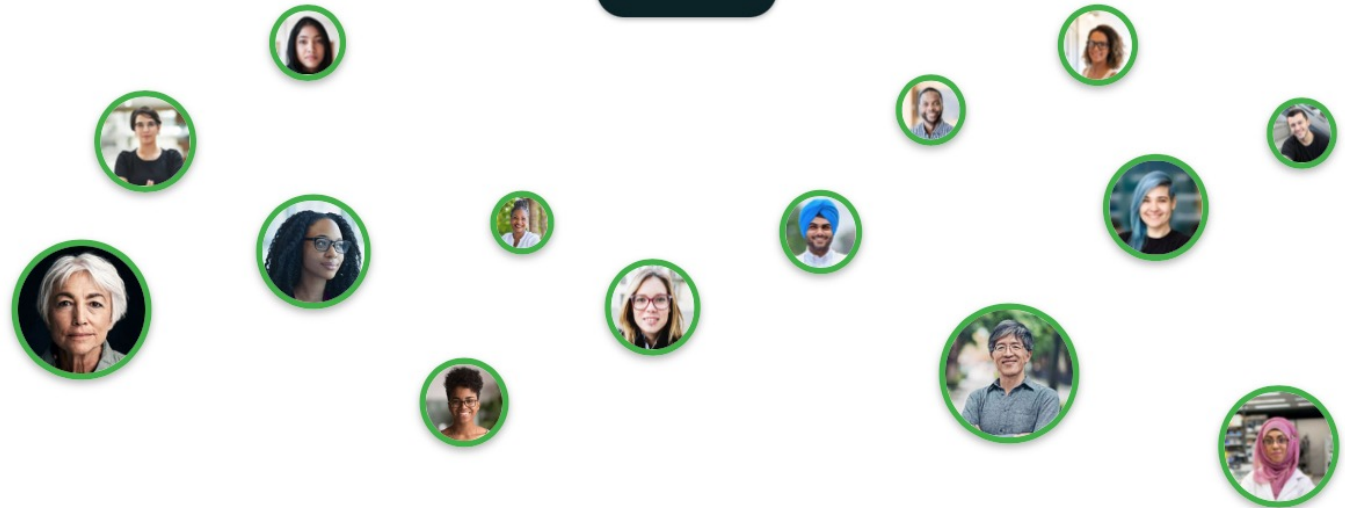
Anaconda

▶ anaconda.com

Data science technology for human sensemaking.

A movement that brings together millions of data science practitioners, data-driven enterprises, and the open source community.

Get Started



Anaconda

▶ anaconda.com

The screenshot displays the Anaconda website's navigation and product selection interface. At the top, the Anaconda logo is followed by a navigation menu with links for Products, Pricing, Solutions, Resources, Partners, Blog, and Company, along with a 'Get Started' button. A dropdown menu is open under 'Products', listing five options: Individual Edition (Open Source Distribution), Commercial Edition (Premium Package Repository), Team Edition (On-prem Package Repository), Enterprise Edition (Full Data Science Platform), and Professional Services (Data Experts Work Together). The 'Individual Edition' option is highlighted with a red box. Below this, the main content area features the heading 'Your data toolkit' and a description of the Individual Edition. A secondary red box highlights the 'Anaconda Individual Edition' download section, which includes a 'Download' button with an Apple logo, the text 'For MacOS', and the specifications 'Python 3.9 • 64-Bit Graphical Installer • 515 MB'. At the bottom of this section, there is a link to 'Get Additional Installers' with icons for Windows, MacOS, and Linux.


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- Individual Edition
Open Source Distribution
- Commercial Edition
Premium Package Repository
- Team Edition
On-prem Package Repository
- Enterprise Edition
Full Data Science Platform
- Professional Services
Data Experts Work Together

Individual Edition
Your data toolkit




With over 25 million users, the Individual Edition (Distribution) is the most popular version of Anaconda. Developed for solo practitioners, it is the toolkit that equips you to work with thousands of open-source packages and libraries.

Anaconda Individual Edition

[Download](#) 

For MacOS
Python 3.9 • 64-Bit Graphical Installer • 515 MB

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Applications on Channels Refresh

 Datalore Online Data Analysis Tool with smart coding assistance by JetBrains. Edit and run your Python notebooks in the cloud and share them with your team. Launch	 IBM Watson Studio Cloud IBM Watson Studio Cloud provides you the tools to analyze and visualize data, to cleanse and shape data, to create and train machine learning models. Prepare data and build models, using open source data science tools or visual modeling. Launch	 JupyterLab 3.0.14 An extensible environment for interactive and reproducible computing, based on the Jupyter Notebook and Architecture. Launch	 Jupyter Notebook 6.3.0 Web-based, interactive computing notebook environment. Edit and run human-readable docs while describing the data analysis. Launch
 Qt Console 5.0.3 PyQt GUI that supports inline figures, proper multiline editing with syntax highlighting, graphical calltips, and more. Launch	 Spyder 4.2.5 Scientific PYTHON Development Environment. Powerful Python IDE with advanced editing, interactive testing, debugging and introspection features Launch	 Glueviz 1.0.0 Multidimensional data visualization across files. Explore relationships within and among related datasets. Install	 Orange 3 3.26.0 Component based data mining framework. Data visualization and data analysis for novice and expert. Interactive workflows with a large toolbox. Install

Anaconda

The screenshot displays the Anaconda Navigator application window. The title bar reads "Anaconda Navigator". The main interface features a sidebar on the left with navigation options: Home, Environments, Learning, and Community. The "Environments" section is active, showing a search bar for "Search Environments" and a list of environments, currently displaying "base (root)".

At the top right of the main panel, there is a search bar containing the text "numpy", which is highlighted with a red rectangular box. Below this search bar, there are buttons for "Channels" and "Update index".

The main content area displays a table of installed packages:

Name	T	Description	Version
✓ numpy	○		1.20.1
✓ numpy-base	○		1.20.1
✓ numpydoc	○		1.1.0

At the bottom of the interface, there are four action buttons: Create, Clone, Import, and Remove.

Simple Test

- ▶ <http://ioi.research.um.edu.mt/staff/adam/download/MDL%20Course/SimpleTest.zip>

Practical File

- ▶ <http://ioi.research.um.edu.mt/staff/adam/download/MDL%20Course/PracticalData.zip>