

# An introduction to Python programming Language for beginners

BABAK ZOLGHADR-ASLI

SESSION ONE | INSTALLING PYTHON

UNIVERSITY OF QUEENSLAND & UNIVERSITY OF EXETER

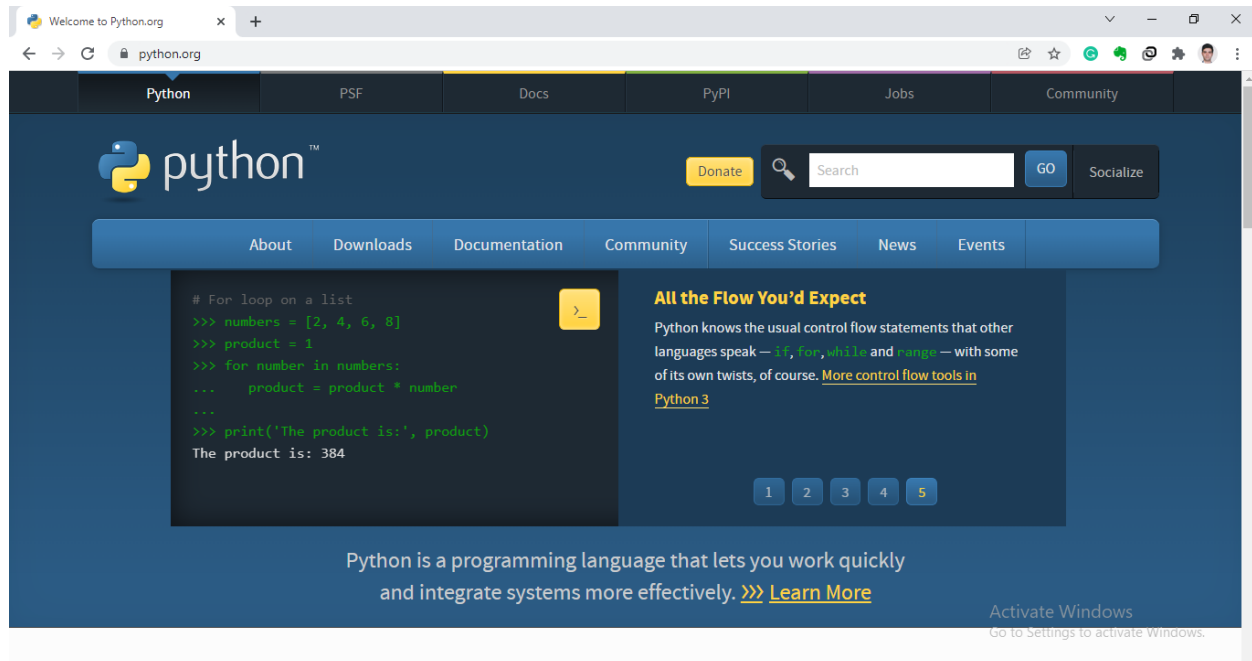
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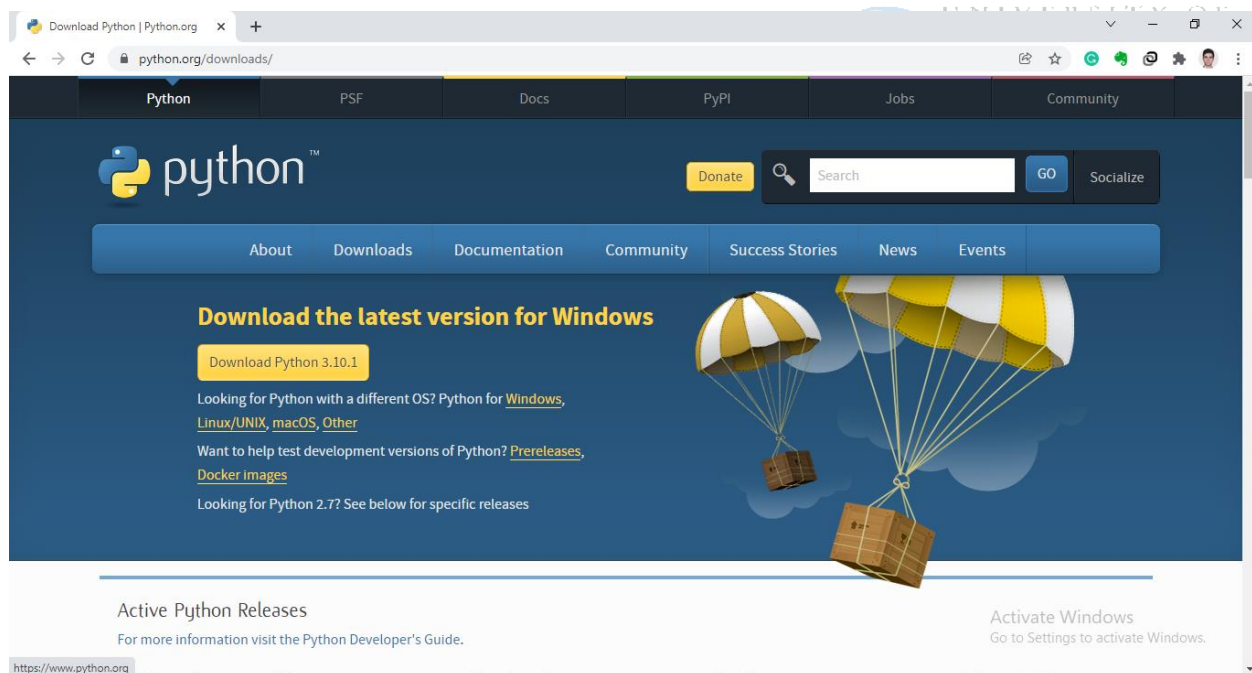


# I. Python & IDLE

1. Go to <https://www.python.org/>



2. Go to the **Downloads** tab; and download the latest **stable version** of the Python [that is, Python 3.10 on Dec. 28, 2021] that is compatible with your system.

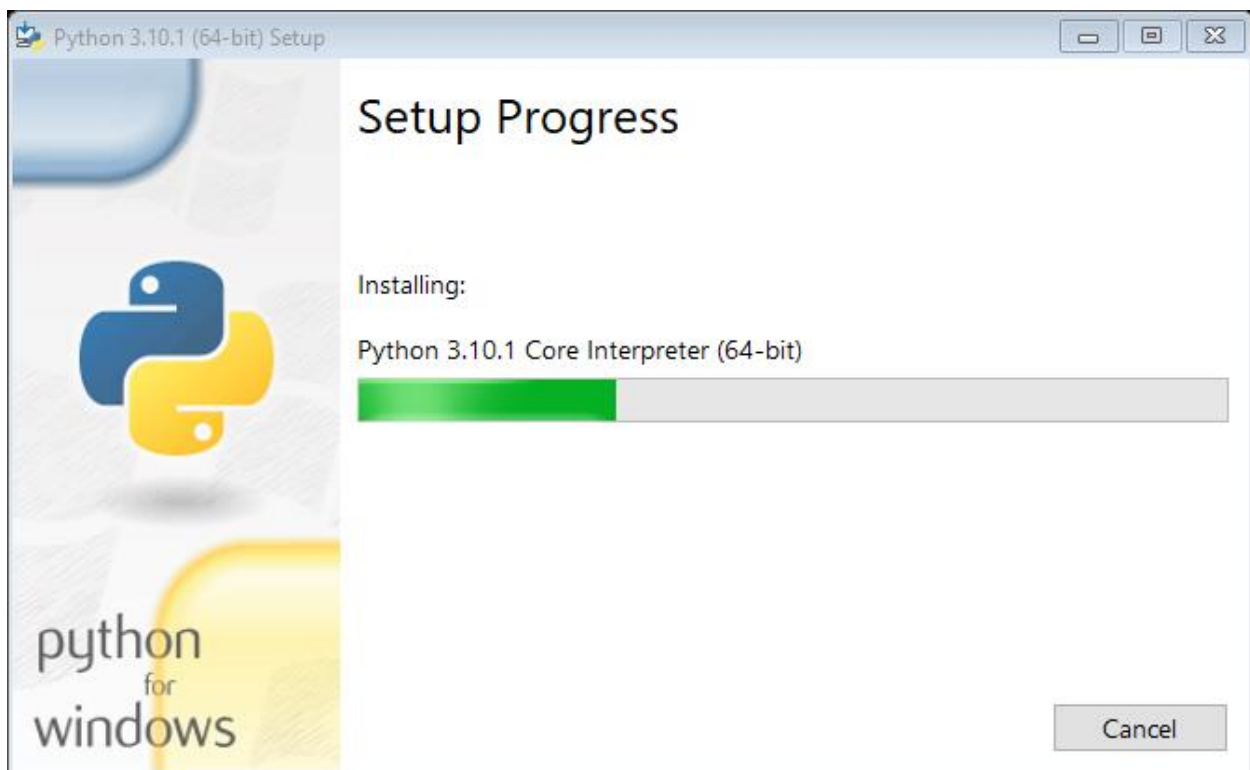


3. Install the package; Make sure you install the IDLE, pip, and documentations; Also add the directory to your PATH (i.e., check the boxes).



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4. Wait for the installation to finish.



## II. Google Colab

Colab, or "Colaboratory", allows you to write and execute Python in your browser, with

- Zero configuration required
- Free access to GPUs
- Easy sharing

Whether you're a student, a data scientist or an AI researcher, Colab can make your work easier. Watch Introduction to Colab to learn more, or just get started below!

1. Simply sign in into your google account in your browser, say google Chrome.

2. Go to the following link:

<https://colab.research.google.com/>

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Welcome To Colaboratory - Colab

colab.research.google.com/#scrollTo=Nma\_JWh-W-IF

Welcome To Colaboratory

File Edit View Insert Runtime Tools Help

Share

Table of contents

- Getting started
- Data science
- Machine learning
- More Resources
- Featured examples

Section

Welcome to Colab!

If you're already familiar with Colab, check out this video to learn about interactive tables, the executed code history view, and the command palette.

3 Cool Google Colab Features

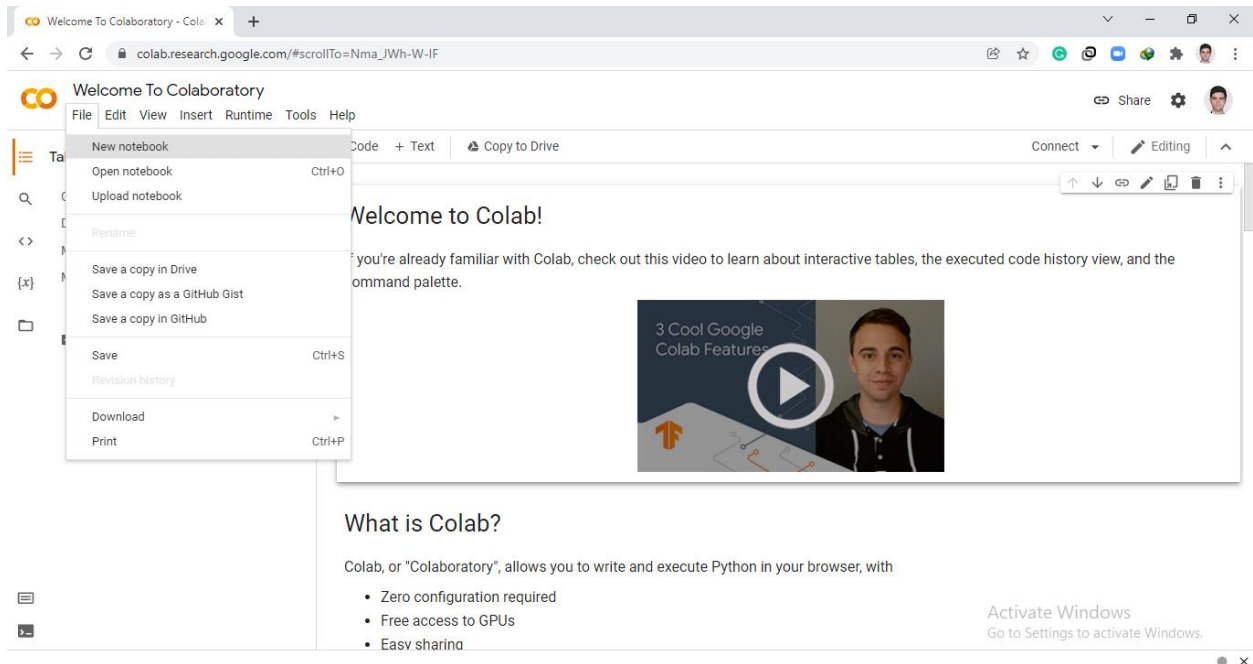
What is Colab?

Colab, or "Colaboratory", allows you to write and execute Python in your browser, with

- Zero configuration required
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Activate Windows  
Go to Settings to activate Windows.

3. To open a new notebook simply go the **File** tab and click on **New nootbook** option.



**Note** | All your nootbooks would be saved on your **Google Drive**. You can easily download the `.py` or `.ipynb` version of any of these files later on.

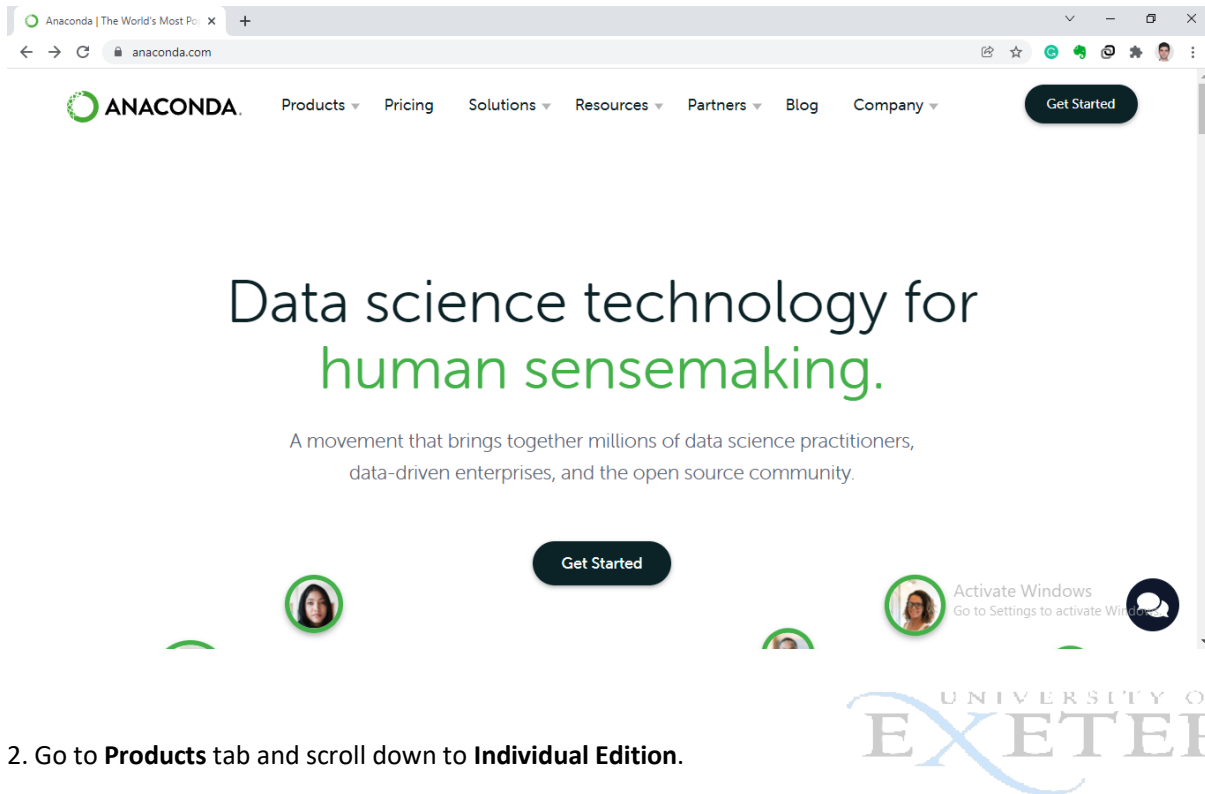


### III. Anaconda

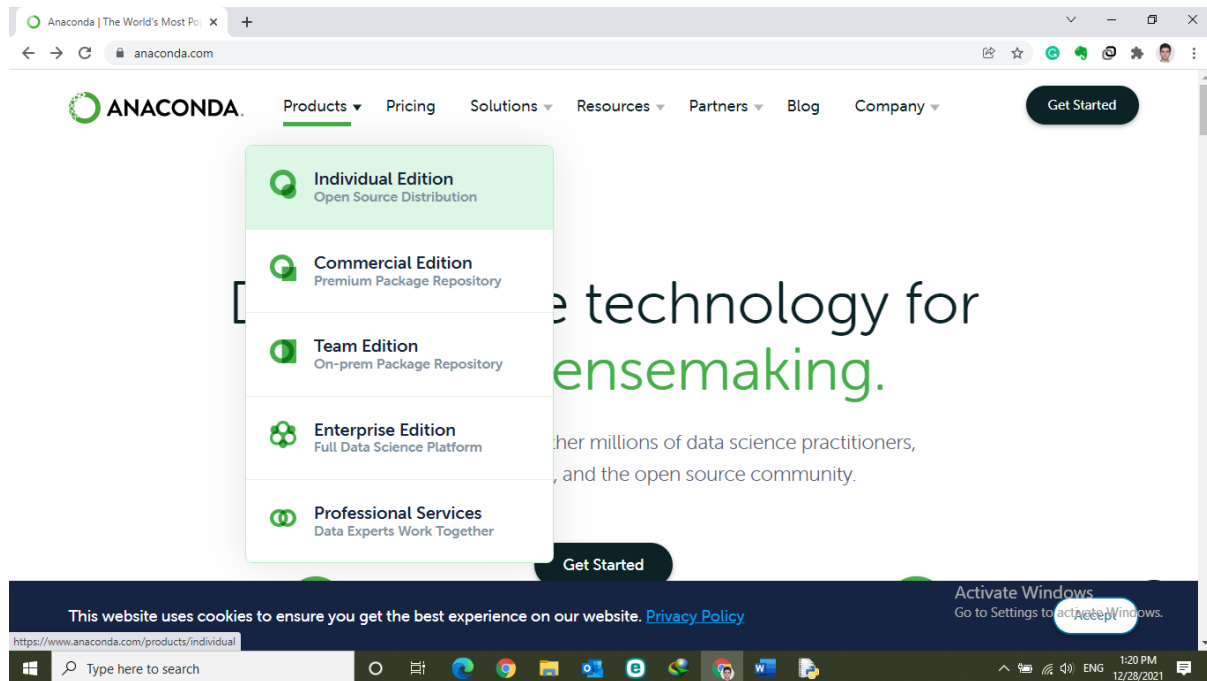
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Anaconda is a distribution of the Python and R programming languages for scientific computing that aims to simplify package management and deployment.

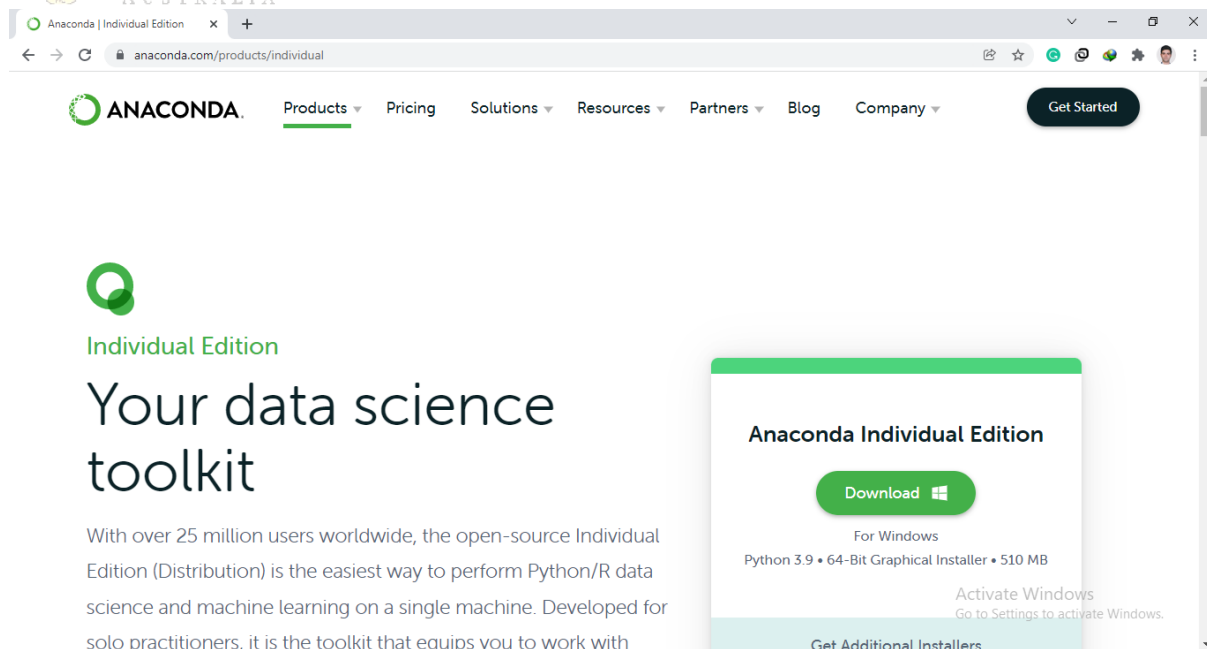
1. Go to <https://www.anaconda.com/>



2. Go to **Products** tab and scroll down to **Individual Edition**.

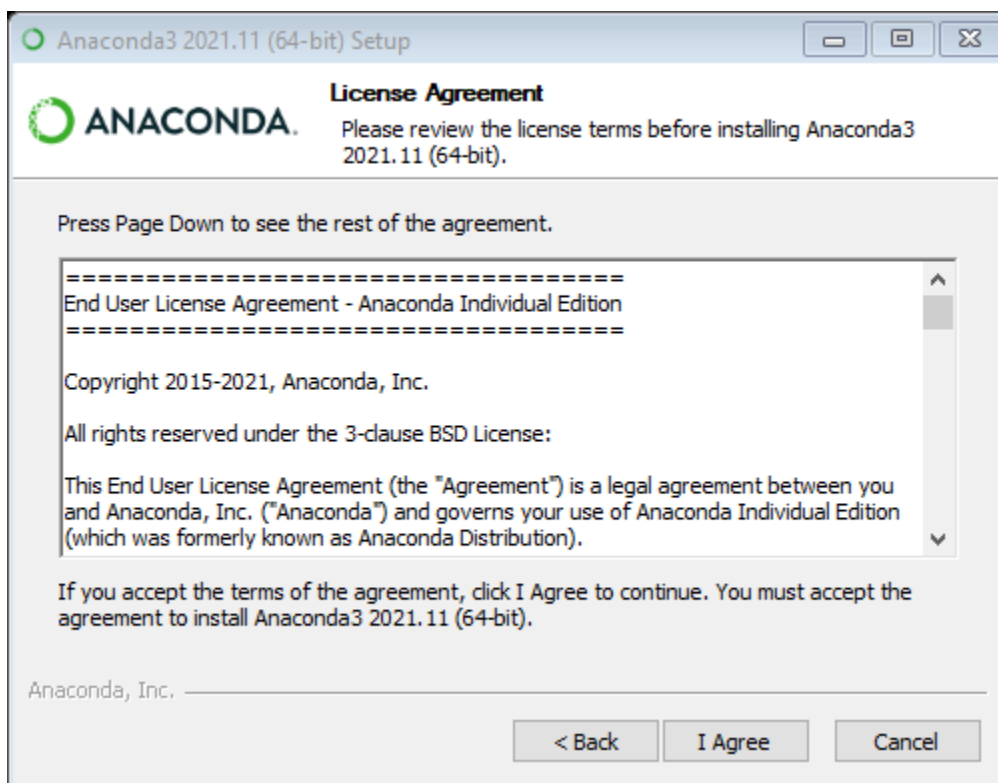


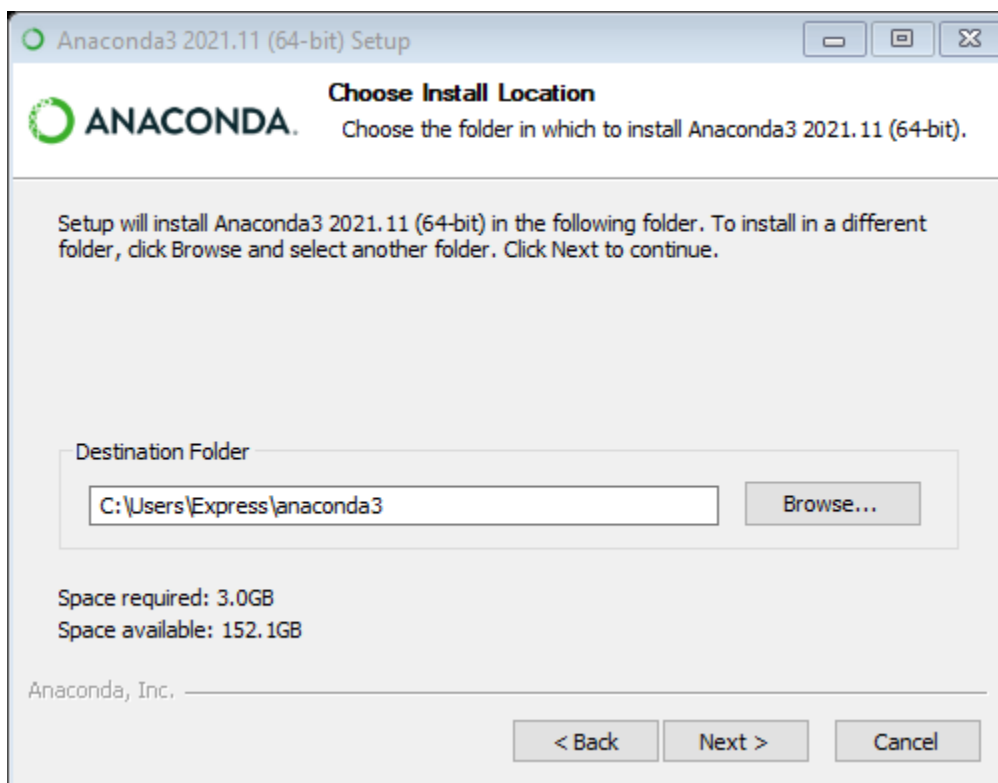
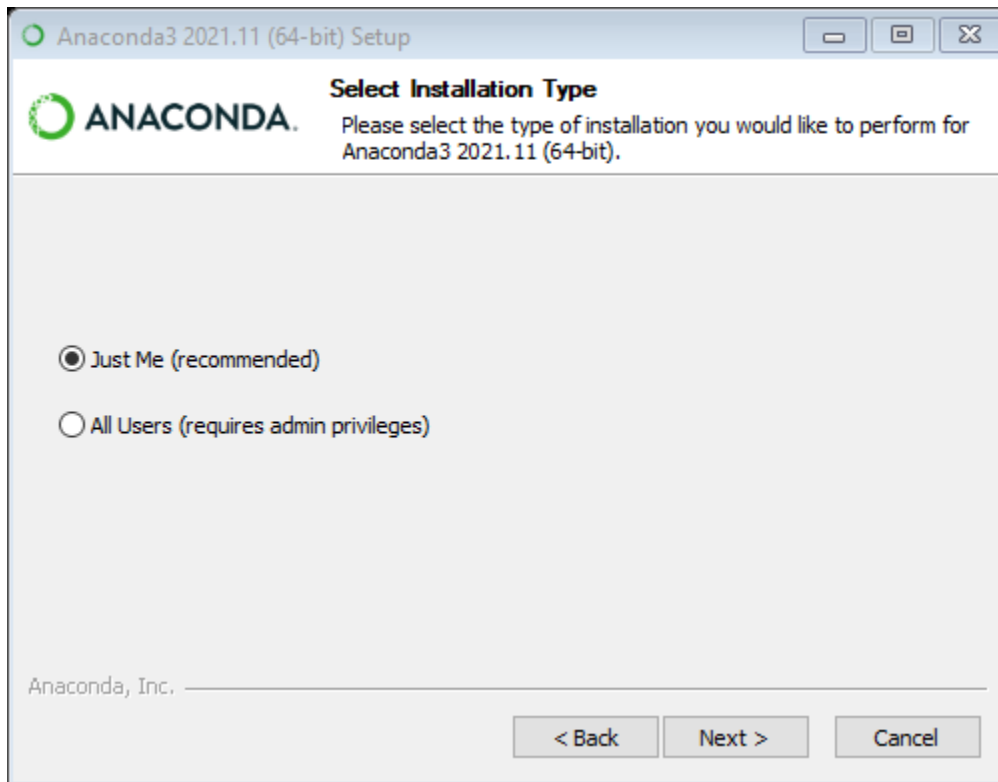
3. Select a package that is compatible with your system.



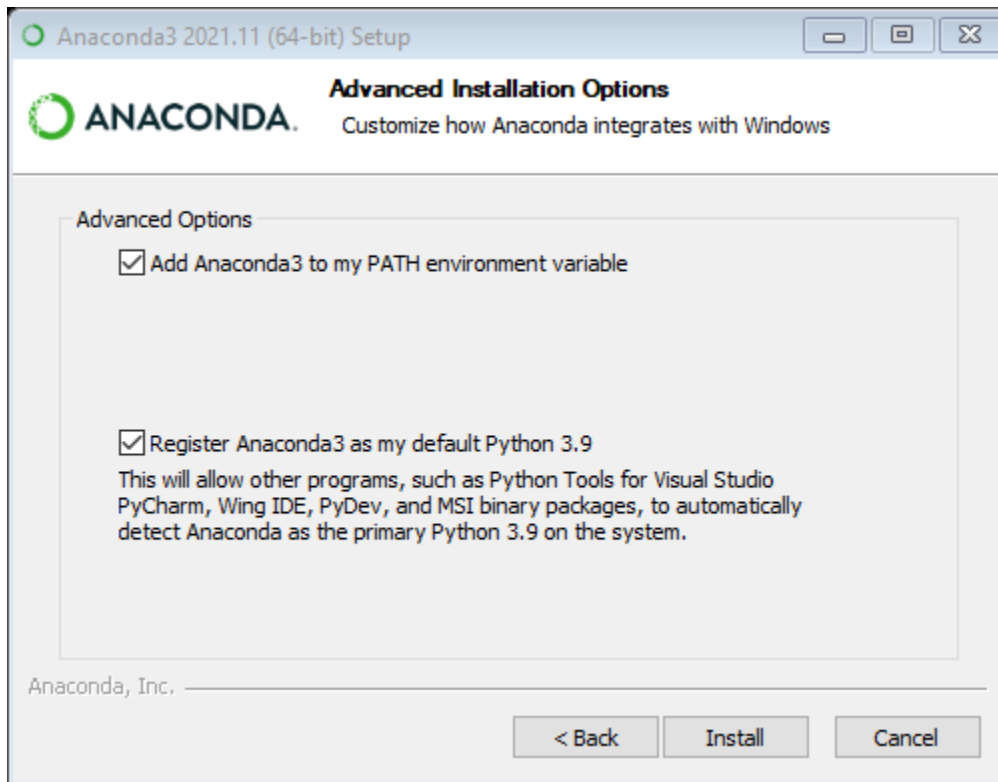
4. Install the app.



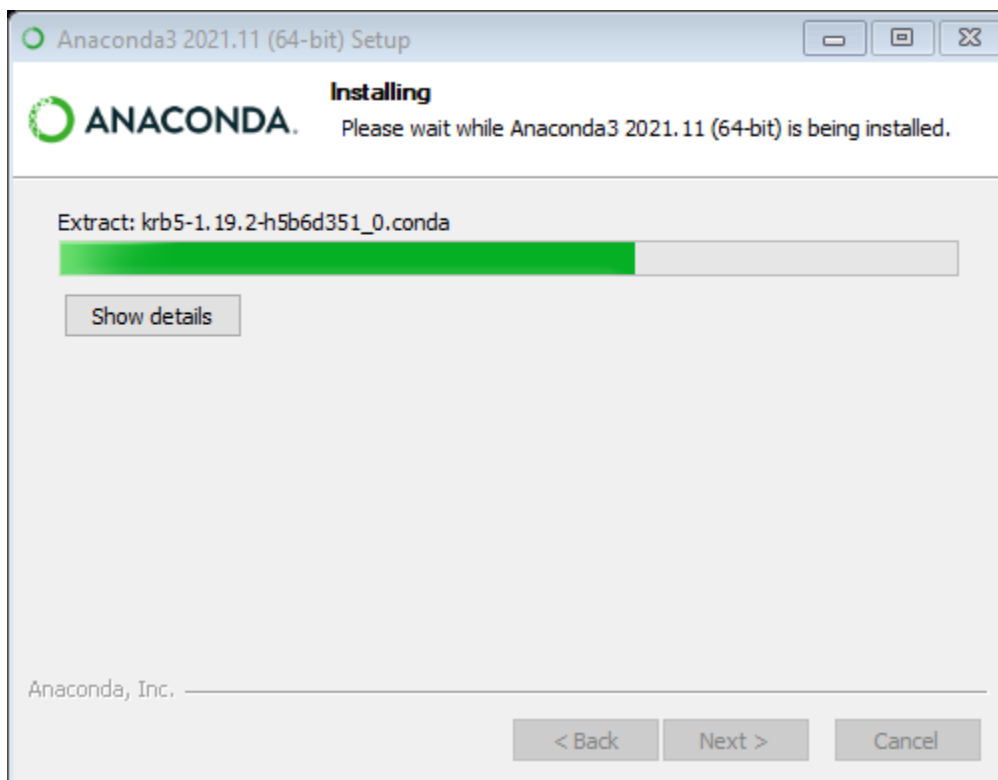


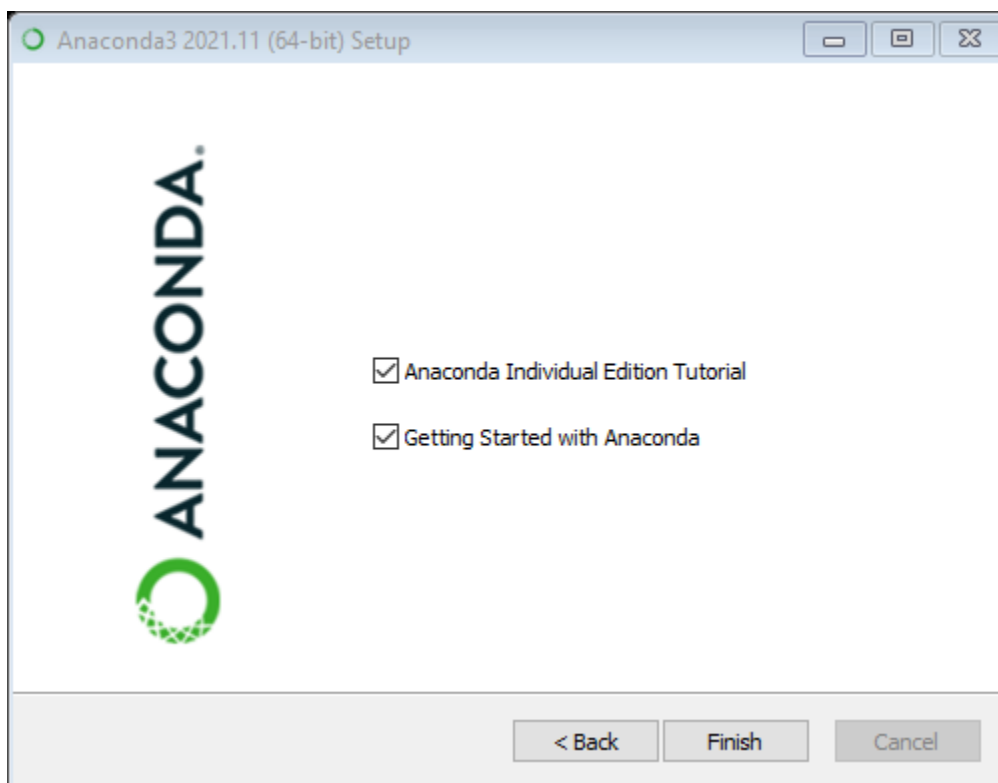
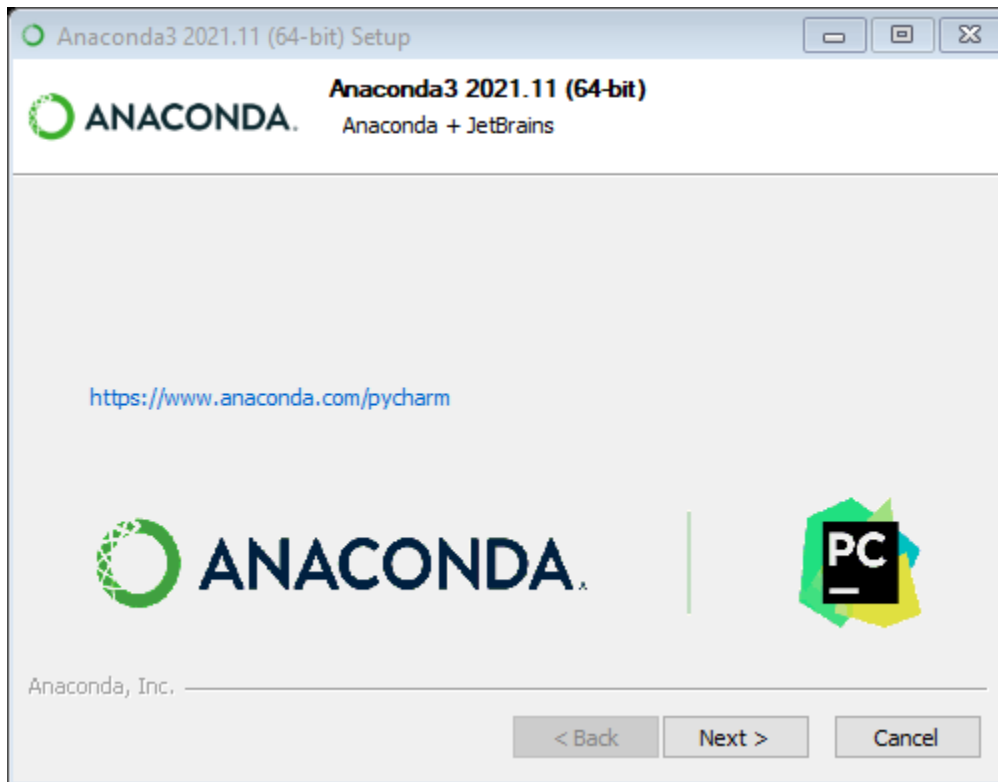


**IMPORTANT** | Make sure to add **Anaconda 3** directory to your **PATH** by checking the box.



5. Wait for the installation to be over.





# BABAK ZOLGHADR-ASLI

## QUEX-JOINT PH.D. CANDIDATE

### RESEARCH AREA

- o Water resources planning and management
- o Climate change
- o Sustainable development
- o Decision-Making paradigms
- o Deep Uncertainty
- o Optimization
- o Machine Learning
- o Data Mining

### CONTACT



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### EMAILS



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### AWARDS & HONORS

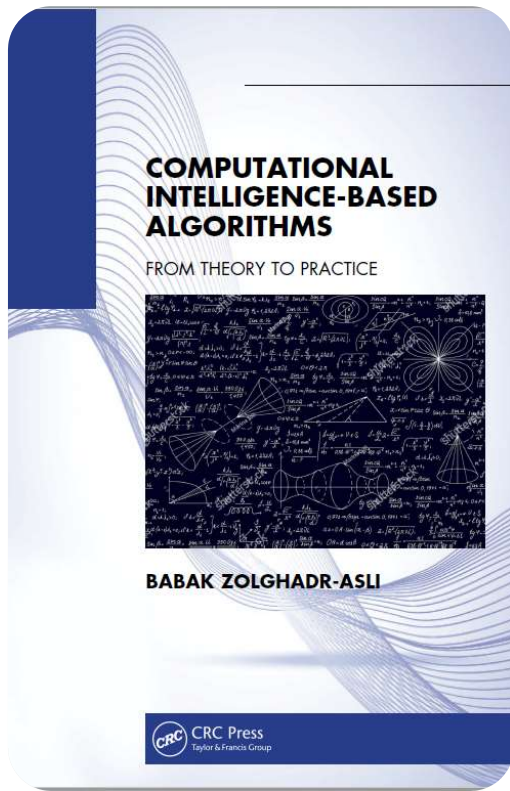
Outstanding researcher award in "the 26th Research Festival", University of Tehran (2017); Outstanding student award in "the 8th International Festival and Exhibition", University of Tehran (2018); Outstanding M.Sc. thesis award in "the 5th National Festival of Environment", Tehran Iran (2018); Winner of the "Prof. Alireaz Sepaskhah" 1st Scientific Award in water engineering [Shiraz University] (2019); Excellent Reviewer, Journal of Hydro Science & Marine Engineering (2020).

### SELECTED PUBLICATION

1. Zolghadr-Asli, B., Naghdizadegan Jahromi, M., Wan, X., Enayati, M., Naghdizadegan Jahromi, M., Tahmasebi Nasab, M., Pourghasemi, H.R., & Tiefenbacher, J.P. (2023). "Uncovering the Depletion Patterns of Inland Water Bodies via Remote Sensing, Data Mining, and Statistical Analysis." *Water*, 15(8), 1508.
2. Zolghadr-Asli, B. (2023). "No-free-lunch-theorem: A page taken from the computational intelligence for water resources planning and management." *Environmental Science and Pollution Research*, DOI: 10.1007/s11356-023-26300-1.
3. Zolghadr-Asli, B. (2023). "Computational intelligence-based optimization algorithms: From theory to practice," CRC Press, (Typesetting and finalizing the publisher requirements).

FOR A FULL LIST VISIT: [HERE](#)





Coming out soon ... HOPEFULLY!!!!



## *Chapter 9: Harmony Search Algorithm*

Summary

9.1. Introduction

9.2. Algorithmic structure of the harmony search algorithm

9.2.1. Initiation stage

9.2.2. Composing stage

9.2.2.1. Memory strategy

9.2.2.2. Randomization strategy

9.2.2.3. Pitch adjustment strategy

9.2.3. Termination stage

9.3. Parameter selection and fine-tuning the harmony search algorithm

9.4. Python codes

9.5. Concluding remarks

References



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# Stay in touch



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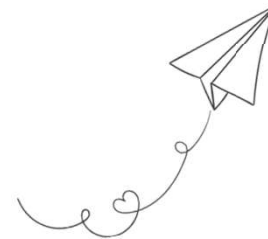
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SCAN ME

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