



# A guide to getting started with machine learning

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BrainX Community

Getting started with machine learning for clinicians and everyone else with healthcare interests in 14 simple steps.

**Step 1. Define goals.**

Do you want to write the code or learn the basics of machine learning.

**Step 2. Define resource allocation.**

Decide on time, money and other resource allocation.

**Step 3. Hardware check.**

Any Laptop, smartphone will get most done.

**Step 4. Identify partners.**

ML expert/Data scientists  
Other clinician partners

**Step 5. Identify resources.**

Data, Educational resources, softwares

**Step 6. Programming language.**

Python-preferred due to ease, libraries, support groups, multifaceted application  
R - strong for statistical analysis  
Others

**Step 7. Programming environment**

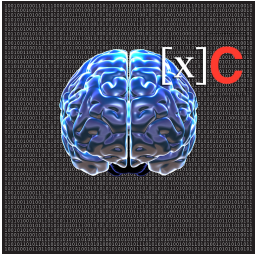
Jupyter notebook (<https://jupyter.org>)  
Google colab (<https://colab.research.google.com/notebooks/welcome.ipynb>)

**Step 8. Define learning pathway for python and Machine Learning**

Online vs Classroom  
learnpython ([learnpython.org](http://learnpython.org))  
Udacity (<https://www.udacity.com>)  
Udemy (<https://www.udemy.com>)  
Coursera(<https://www.coursera.org>)  
MIT (<https://ocw.mit.edu/index.htm>)  
Stanford (<https://see.stanford.edu/course/cs229>)  
Carnegie Mellon University ([http://www.cs.cmu.edu/~tom/10701\\_sp11/lectures.shtml](http://www.cs.cmu.edu/~tom/10701_sp11/lectures.shtml))

**Step 9. Online Machine learning courses.**

Certification vs completion.  
Mentorship availability is advantageous.  
Projects, oversight and feedback are advantageous.



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## Step 10. **Projects.**

Hands on project are a must to get better training and understanding.  
Develop simple projects to solve local problems.

## Step 11. **Datasets**

BrainX Community (<https://www.brainxai.org/data/>)  
MIMIC (<https://mimic.physionet.org>)

## Step 12. **Online resources.**

Kaggle (<https://www.kaggle.com>) :Offers datasets, competitions and education.  
Github (<https://github.com>) : Share code and manage projects.  
Stack overflow (<https://stackoverflow.com>): Best at sharing solutions to problems.

## Step 13. **Free learning resources for machine learning in healthcare.**

Learning ML by Prof.Andrew Ng (<https://www.mlyearning.org>)  
Deep Learning by Ian Goodfellow and Yoshua Bengio and Aaron Courville  
(<https://www.deeplearningbook.org>)

## Step 14. **Organizations and groups to consider joining.**

BrainX Community (<https://www.brainxai.org>)  
AIMed (<https://ai-med.io>)  
PATH (<https://pathhealth.com>)  
ML for healthcare (<https://www.mlforhc.org>)  
HIMSS (<https://www.himss.org>)  
AMIA (<https://www.amia.org>)