

Project: Kincet image data visualization

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Summary This short article is to explain the

Milestone 1: Kincet image data visualization - Exercise 2

The following deliverables are requested:

Deliverables will be 2nd exercise conversion from the repo to python and concept explanation

https://github.com/mcharrak/probabilistic-graphical-models-PGM-learning-coursera-daphne-koller/tree/master/PA_ex2-Learning-Tree-Structured-Networks-Release

Submissions

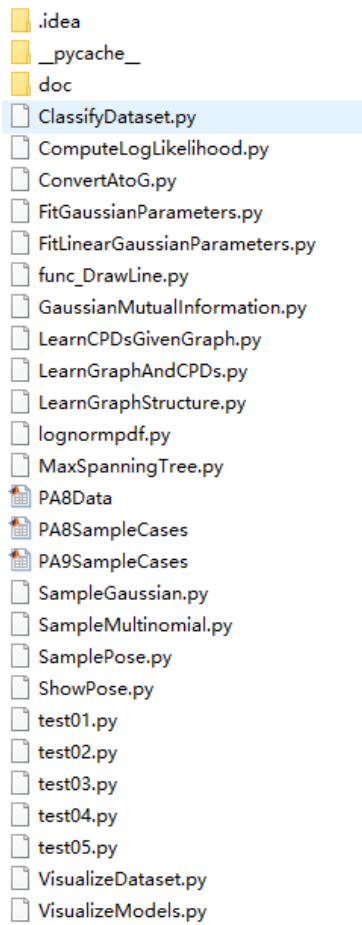
In the attachment along with this document, a python project (Python 3.x) will the following sources file is provided.

The folder structure of the python project (Python 3.x) is shown in the left in the following figure; correspondingly the folder structure of the matlab project is shown in the right.

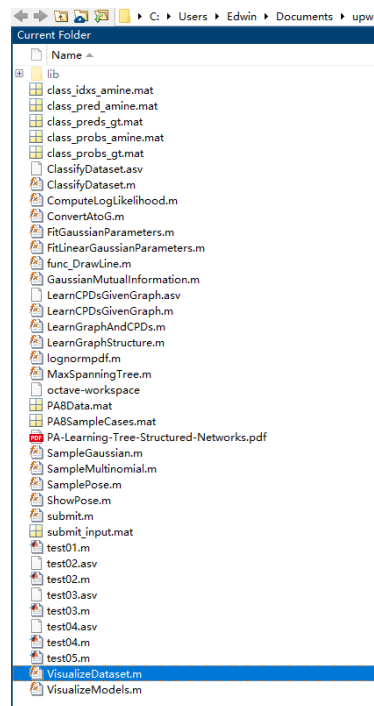
When converting from matlab to python, the first challenge is the indexing. In matlab, the indexing is starting from 1; while in the python the indexing is starting from 0.

Test Cases

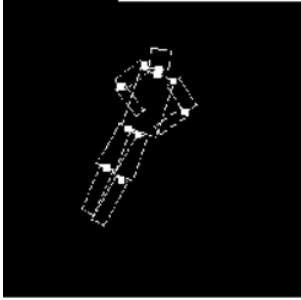
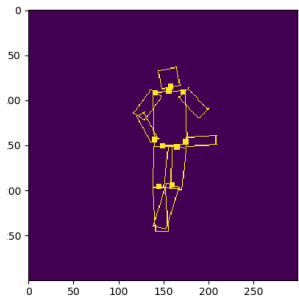

Conclusion: From the accuracy from the test case 02/03/04, the python project is giving the identical performance as the matlab project.



(a) python project



(b) matlab project

name	description	output from Matlab	output from Python
test01	visualize the data set		
test02	Learning with the naive bayes model	log likelihood: -46680.632740 Accuracy: 0.7875	log likelihood: -46680.632739531786 Accuracy: 0.7875
test03	Learning with known skeletal structure	log likelihood: -27716.908524 Accuracy: 0.8375	log likelihood: -27716.90852437852 Accuracy: 0.8375
test04	Learning the graph structures and then learning the parameters for each graph structure	log likelihood: -26640.584282 Accuracy: 0.9175 	log likelihood: -26640.584282426134 Accuracy: 0.9175 