Course Introduction and Python Recap

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CS5103 Applied Machine Learning Lecture 1
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Course Introduction

How is this course different from MA4207?

This course is complementary to MA4207 ‘Foundations of Machine Learning and Network Analysis’: https://www.iiserkol.ac.in/teaching-plan/course/2025/Spring/MA4207/ .

MA4207 discusses the mathematical and statistical theory behind the machine learning (ML) methods in detail.

In this course, we will download various datasets and learn to apply ML methods on them. (We will do a lot of coding!)

Class Timings and the Venue

Class Timings

- Tuesday (Tutorial 8-9 am +) 9-10 am
- Wednesday 11 am-12 pm
- Friday 4-5 pm

Venue

- LHC 103

Attendance Policy for BS-MS Students

- “At any point of time, if a student’s attendance goes **below 60%**, the concerned instructor should report it to the Academic Office and the DoSA who will ensure that the student is appropriately counselled at the Mind Care and Wellness Centre (MCWC)”.

- “Instructors should notify the Academic Office if any student fails to appear in classes for **a span of one week**”.

Ref: https://www.iiserkol.ac.in/media/filer_public/35/e3/35e38056-d8f6-4dc4-ace1-646a79e0fb48/academic_guidelines_bsms_2023-2024.pdf

Evaluation Policy

- Mid-sem exam: 20% (1.5 hours)
- End-sem exam: 50% (2.5 hours)
- Internal assessment: 30%
  - Two programming assignments

Ref: https://www.iiserkol.ac.in/media/filer_public/fd/1f/fd1f831d-3eec-45e1-95f9-3facad90ed31/academic_guidelines_general_2023-2024.pdf

Course Website

https://spynegroup.github.io/2024cs5103/

Writing and Importing Code in Python

A Python Recap

Python Recap

Software required

- Anaconda Navigator: https://www.anaconda.com/products/navigator . We can launch command prompts, Jupyter notebooks, Spyder code editors, etc. from within the Anaconda Navigator.

Let us launch a Jupyter notebook from the Anaconda Navigator. Then revise a few basic Python commands in the Jupyter notebook named **‘recapPython.ipynb’**.

Python Resources: Recommended by Dr Kripa

- Core Python Programming. R. Nageswara Rao.
- https://www.w3schools.com/python/
- https://www.py4e.com/lessons
- https://automatetheboringstuff.com/
- https://www.w3resource.com/ (for unlimited exercise problems)

PIP

PIP is a package installer: https://pypi.org/project/pip/

What is a ‘package’ and is it same as a ‘module’?

- A ‘module’ is “an object that serves as an organizational unit of Python code…Modules are loaded into Python by the process of importing”.

- A ‘package’ is “a Python module which can contain submodules or recursively, subpackages. Technically, a package is a Python module with a ‘__path__’ attribute”.

- Therefore, ‘module’ is a superclass and ‘package’ is a subclass.
  All packages are modules but all modules are not packages.
  The modules that can not contain submodules or subpackages are not packages.

Ref: https://docs.python.org/3/glossary.html

Useful Commands in PIP

From the Anaconda Navigator, launch an Anaconda Prompt and use the following commands.

Print which version of pip you have
> pip --version

Install a package (say, numpy) using pip
➢ pip install numpy

Print a list of all installed packages
> pip list

Uninstall a package
> pip uninstall numpy

PIP Tutorials

- **‘usePip.ipynb’**

- Please also see https://www.w3schools.com/python/python_pip.asp

Thank You