Organization & Introduction to Scientific Python

Machine Learning 1 UE (INP.33761UF)

Thomas Wedenig

Mar 06, 2024

Institute of Theoretical Computer Science
Graz University of Technology, Austria

Organization

- Syllabus on **TeachCenter**

Date & Time

- Will be held on **Wednesday @ 10:30 - 11:30 AM**
  - Not every Wednesday, check TUGonline
- **Lecture Hall i13**
- No mandatory attendance (although I'm happy if you show up)
- **All sessions will be recorded and put on TUbe**

Communication

- Use **TeachCenter Forum** if possible
- If question includes private code etc., **send an email** (thomas.wedenig@tugraz.at)

Team

Weekly Sessions

Thomas Wedenig
(thomas.wedenig@tugraz.at)

- Recap of concepts from the lecture
- Presenting implementations
- Questions regarding assignments

Teaching Assistants

Sofiane Correa de Sa
(correadesa@student.tugraz.at)

Marharyta Papakina
(marharyta.papakina@student.tugraz.at)

- Grading assignments
- Assignment Interviews

- Lecture (VO) and Practical (UE) **graded separately**
- **Four assignments** in total

Positive Grade !

In order to get a positive grade, you have to satisfy the following two conditions:

- You have at least 30% of points **on each of the 4 assignments**, **and**
- You have collected ≥ 50 points in total

Table 1: Grade as a function of points if you have $\geq 30\%$ of points on all assignments.

Points	Grade
87.5 – 100	1
75.0 – 87.4	2
62.5 – 74.9	3
50.0 – 62.4	4
0.0 – 49.9	5

Assignments

- You may form teams of **up to two students**
  - Teams **can be different for each assignment**
- Alternatively, **you can work alone**
- One team member **submits code and PDF report** via TeachCenter
- If grading of assignment is unclear, **send an email to the responsible Teaching Assistant**

Assignment X

Machine Learning 1, SS2024

Team Members		
Last name	First name	Matriculation number
Schmidhuber	Jürgen	12345678
LeCun	Yann	90123456

Assignments (cont.)

Deadlines

- Late submissions are allowed (**soft deadlines**)
- For each day after the deadline, we deduct **5 points**

Plagiarism

Do not share solutions/code between groups !

- Python files **automatically checked for plagiarism**
- If detected: 0 points for **all groups involved**
- Second strike: Graded as **Ungültig aufgrund von Täuschung**

Assignment Interviews

- **Assignment Interviews** at the end of semester (mandatory)
- **Goal:** We check if you understood your implementations and your reports
- Point deductions up to 100% of points possible
  - Points will be deducted *after* checking if you have 30% of points on all assignments
- Will be in the week of **July 08 - July 12** (individual slots will be announced)
- Preferably **in-person** (Campus Inffeldgasse)
- Online interviews possible (WebEx), e.g., if you're not in Graz anymore

- **Do not use Large Language Models (LLMs) to generate solutions (code & report)** !
  - Including (but not limited to) ChatGPT, Github Copilot, Jetbrains AI etc.
- These tools might output the **same code** for different teams (plagiarism checks)
- You will implement very basic concepts and use well-known APIs (numpy, sklearn)
- LLMs can solve many of these problems, but the value of this course is in **coming up with the solution** in the first place

Assignment Schedule

No	Assignment	Handout	Deadline
1	Linear & Logistic Regression	17.04	03.05 (23:59)
2	PCA and Neural Networks	15.05	31.05 (23:59)
3	k-NN, SVM, Decision Trees	05.06	21.06 (23:59)
4	MLE, EM, k-Means	19.06	07.07 (23:59)

Assignment Interviews: 08.07 - 12.07 (in-person & online, individual slots will be announced)

Introduction to Scientific Python

`numpy`, `matplotlib`, `scikit-learn`, `pandas`

References I