

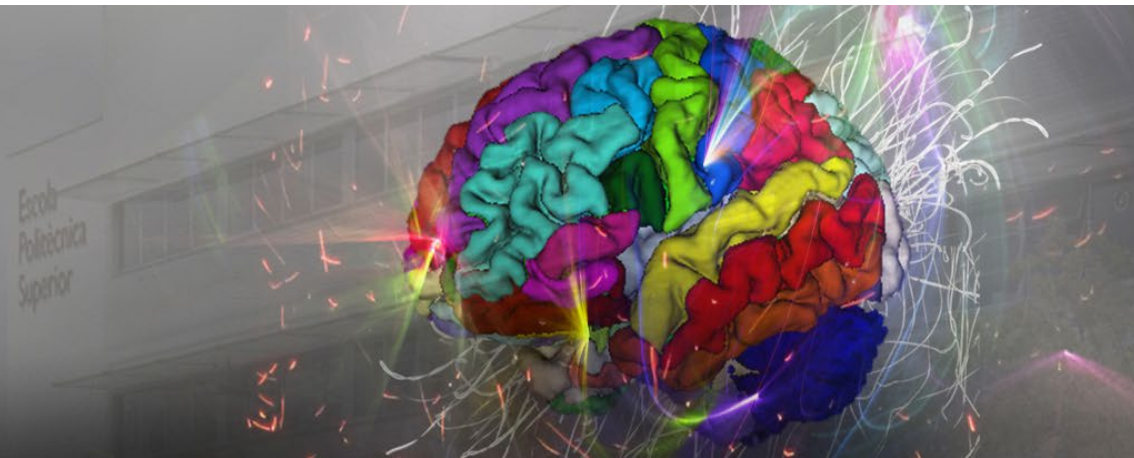


Computer Aided Diagnosis (CAD)

CADx PROJECT – 2023/24

Xavier Lladó, Arnau Oliver, Uma Lal-Trehan, Marc Masias

{ xavier.llado, arnau.oliver, uma-maria.lal-trehan, marc.masias }@udg.edu



CADx: Challenge

Nevus



Binary problem: Nevus vs Others

3-class problem: classification of malignant cancers

Basal Cell



Squamous Cell



Melanoma



Deep learning Project: expected tasks

- Review the literature (always the first step!)
- Propose a CADx solution for each Challenge using deep learning approaches
- Reporting:
 - Submit your results in the web for each challenge
 - We will rank the online results 😊
 - A 8-minutes presentation
 - One intro slide explaining how you structured your work
 - Explanation of the approaches developed, clearly stating the best one
 - Provide results for the validation images
 - Finish with conclusions

MIRS: DL for object detection

- Object detection and classification in images and videos
 - We are going to use YOLO (You Only Look Once)
 - YOLOv8 version can be found here: <https://github.com/ultralytics/ultralytics>
 - Model pretrained with the COCO dataset (<https://cocodataset.org>)
- **Tasks to do:**
 - 1) use one of the models pretrained with the COCO dataset and analyse qualitatively the results obtained within a video that you choose or that you create by yourself
 - 2) Transfer learning on a custom dataset to detect a novel object class



Agenda

- Lectures
- Lab sessions
- Seminars
- Lecture activity

setembre 2023

	dl.	dt.	dc.	dj.	dv.	ds.	dg.
					1	2	3
	4	5	6	7	8	9	10
	11	12	13	14	15	16	17
A	18	19	20	21	22	23	24
B	25	26	27	28	29	30	

8-10h (II.1A)

octubre 2023

	dl.	dt.	dc.	dj.	dv.	ds.	dg.
							1
A	2	3	4	5	6	7	8
B	9	10	11	12	13	14	15
A	16	17	18	19	20	21	22
B	23	24	25	26	27	28	29
	30	31					

novembre 2023

	dl.	dt.	dc.	dj.	dv.	ds.	dg.
			1	2djB3dvB	4	5	
A	6	7	8	9	10	11	12
B	13	14	15	16	17	18	19
A	20	21	22	23	24	25	26
B	27	28	29	30			

desembre 2023

	dl.	dt.	dc.	dj.	dv.	ds.	dg.
B					1	2	3
	4	5dvB	6	7	8	9	10
A	11	12	13	14	15	16	17
B	18	19	20	21	22	23	24
	25	26	27	28	29	30	31

Evaluation

- Final Mark (FM):
 - First project (30%)
 - Lecture activity (35%)
 - Final project (35%)
- Evaluation criteria:
 - From labs: 70% strategy and results + 30% document
 - From lecture activity: 50% document + 50% presentation and interaction
- Plan your deadlines!
 - 100% mark before the deadline
 - 80% up to a week after
 - 50% more than a week after



Good luck!!!

Hope you will enjoy this project!

