Universitat Autònoma de Barcelona

2023/2024

Treball de Final de Màster

Codi: 44779
Crèdits: 9

Titulació	Tipus	Curs	Semestre
4318299 Visió per Computador	OB	0	2

Professor/a de contacte

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Idiomes dels grups

Podeu accedir-hi des d'aquest enllaç. Per consultar l'idioma us caldrà introduir el CODI de l'assignatura. Tingueu en compte que la informació és provisional fins a 30 de novembre de 2023.

Prerequisits

Un grau en Enginyeria, Matemàtiques, Física o similar.

Objectius

The main goal of this module is the development of a project where students should apply the knowledge acquired in the previous modules and their own skills and abilities to solve a practical problem in Computer Vision. For students willing to pursue a PhD program after completion of the master, the master thesis should be the first stage of their PhD thesis. To this end, students must be able to analyse the problem, pose an initial hypothesis to solve it, design an appropriate methodology to validate this hypothesis and draw relevant conclusions from their work. As a result, students must write a final report and pass a public defence before an evaluation committee where they should show their ability to communicate in a clear way their work. The expected total workload of this module thesis is about 300 hours.

Resultats d'aprenentatge

- CA04 (Competència) Desenvolupar tots els components d'un sistema de visió en el context del treball de final de màster.
- CA05 (Competència) Planificar el desenvolupament, l'avaluació, la disseminació i la transferència d'un projecte de visió.
- KA07 (Coneixement) Identificar els components a tots els nivells que s'han de solucionar en el context del treball de final de màster.
- KA11 (Coneixement) Seleccionar els millors algoritmes i experiments per resoldre i entrenar els components d'un sistema en el context del treball de final de màster.

- KA15 (Coneixement) Proporcionar la millor modelització matemàtica que solucioni cadascuna de les parts del sistema de visió que es desenvolupa en el context del treball de final de màster.
- KA19 (Coneixement) Saber construir un estat de l'art i citar tota la bibliografia relacionada per a un problema de visió a tots els nivells.
- SA16 (Habilitat) Preparar un document científic que descrigui amb tota profunditat d'anàlisi i il·lustració els resultats del desenvolupament d'un projecte de visió.
- SA18 (Habilitat) Defensar els resultats del projecte final de màster en una presentació oral davant d'un comitè avaluador.

Continguts

The Master dissertation is an individual academic work, consisting of 3 well differentiated parts, which are:

- the realization of the project,
- the writing of the technical report, and
- the public presentation and defense of the project, which will take place at the end of the first semester of the second.

The aim of the Project realization is the student to apply the steps of the scientific method.

All the information about these steps are given at the C8 moodle room in the Campus Virtual (cv.uab.cat), there you can find:

- Calendar divided in three steps:
    - Project proposals (October-March) are visible as soon as they arrive and are validated by the M9 coordinators. You are welcome to start discussing with the academic supervisors the proposals that interest you. Take note that a good number of proposals enter the system late and will only be visible by the end of March. Project proposals can be seen at:
        Academic Project Proposals <here>
        Company Project Proposals <here>

We recommend you to take your time to take a decision, specially we suggest to wait for having started all the remaining courses (C5 and C6) in order to have a global overview about what topic you do prefer.

    - Selection period (April) during the selection period the students should discuss with academic supervisors and select a project. The students will have to select their preferred project using the Webpage of the Master, we will give you specificinformation about how to perform the assignment process, since you need to receive a confirmation of the assigned project.

        Master project development (May to July or September) carries 300 hours of work, starting with the elaboration of the state of the art of your topic and agreeing with your supervisor on a time plan in advance to ensure that you will complete your project on time.
- Defense of the thesis (July or September) requires to deliver a report of your work and being evaluated by a committee of 3 members

Metodologia

Each student will have to select a project, it can be an academic project proposed by the academic staff, or can be a project proposed by a company.

Students can also propose their on project proposal. In any case an academic supervisor will be assigned from any of the 4 university departments involved in the master.

The supervisor will guide the student in a personalized manner in the completion of the project. The academic selects and provides guidance around the objectives of the project, supervises and resolves doubts.

A series of activities will be carried out (deliveries and meetings) that allow to control the follow-up of the work carried out by the student. Students should contact their tutor to arrange the meetings they will hold throughout the course.

Nota: es reservaran 15 minuts d'una classe, dins del calendari establert pel centre/titulació, per a la complementació per part de l'alumnat de les enquestes d'avaluació de l'actuació del professorat i d'avaluació de l'assignatura/mòdul.

Activitats formatives

Títol	Hores	ECTS	Resultats d'aprenentatge
Tipus: Supervisades			
Meetings with the supervisor	28	1,12	CA05, KA07, KA11, KA19, SA16
Tipus: Autònomes			
Autonomous work	156	6,24	CA04, CA05, KA07, KA11, KA15, KA19, SA16, SA18

Avaluació

The final mark for this module will be computed with the following formula:

Final Mark = 0.25 x Supervisor Mark + 0.75 x Committee Mark

where,

Supervisor Mark: is the result of applying a three stage rubric to the document of the thesis proposal. The project advisor will evaluate the student before the presentation, and provide the evaluation scores to the Master Thesis committee.

Committee Mark: is the average mark provided by the three members of the evaluation committee. The committee members will receive the Master Thesis document at least 7 days before the public presentation. After each presentation the three members will discuss privately the evaluation of the written reports and the presentations.

Activitats d'avaluació continuada

Títol	Pes	Hores	ECTS	Resultats d'aprenentatge
Master thesis	0.5	30	1,2	CA04, KA15, KA19, SA16
Meetings with the supervisor	0.25	10	0,4	CA05, KA07, KA11, SA16, SA18
Oral presentation and thesis defence	0.25	1	0,04	CA04, SA18

Bibliografia

Specific bibliography will depend on individual projects and will be suggested by the academic in charge

Programari

Specific software depends on the individual project topic