UNIVERSITÉ CÔTE D'AZUR

MSc.
Data Science & Intelligence Artificial

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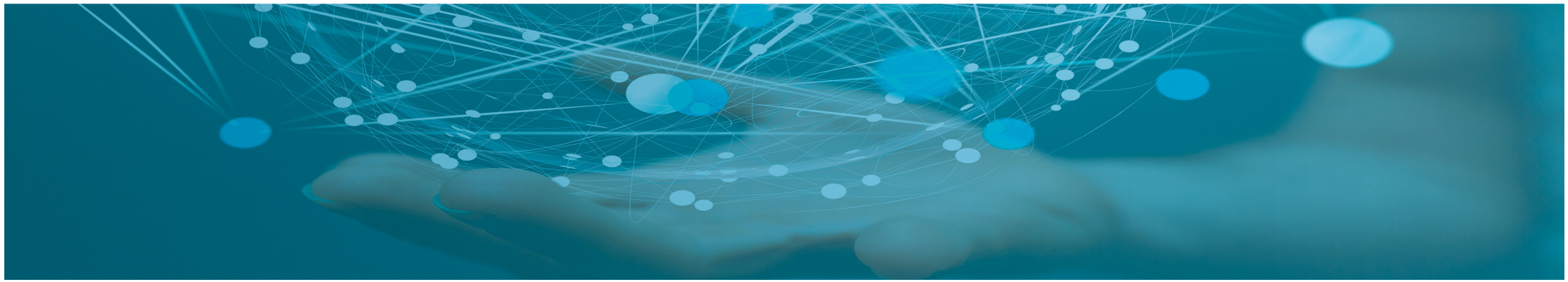

Short presentation

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- Who has just completed the second year ?
- Who has just completed the first year and pass in the second year ?
- Who is coming for the second year ?
- Who is coming for the first year ?

Administrative question

- For all admission questions, you can contact Nelia.GHIRONI@univ-cotedazur.fr
- For all pedagogical question, you can contact Lea.HOLLANDER@univ-cotedazur.fr
- MIO office (near welcome desk) at the entrance of the building

Campus Services

- Internet access
  - Connect to the university wifi network via the Unice Hotspot using UCA user name and password.
- Printing
  - Printers can be accessed using student card.
- Libraries
  - The online library can be accessed via the ENT or the UCA Library website: https://bu.univ-cotedazur.fr/fr
  - Visit of the library is planned beginning of october

- **French lessons**
  - **The UCA Language Centres offer free french lessons and e-learning resources. For more information: http://www.unice.fr/scl/crl/**

Catering Services

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- CROUS Restaurants (Resto'U) offer meals to students at reduced prices.
  - 2 CROUS restaurants on Sophia Antipolis
  - For a list of CROUS restaurants:
- https://www.etudiant.gouv.fr/en/map-resto-u-restaurants-235

- Some shop with sandwiches on Saint Philippe

UCA email

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- UCA email can be accessed via the ENT - http://ent.unice.fr/
  - ENT = Espace Numérique de Travail = digital workspace
- Log in using UCA username (not email address) and password.
- University communication will be via UCA email, not personal email so make sure to check it regularily.
  - **Use your student email to communicate with teachers**
- ENT also has many useful tools and information, and important messages from the university may be posted there (e.g., technical issues, service closures).

Lectures and study ROOMs

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- You have:
  - 1 lecture room for the M1 year: 348 (code 8732)
  - 1 lecture room for the M2 year: 281 (code 1988)
  - 1 common room for break: 346 (code 8732)

  - Do not lose the keys, put them in the box provided for this purpose.

- Take care of them, they are reserved for you
  - as far as possible stay in the same place

First year

Agenda

- Refresher 12/09/2022 - 23/09/2022

- Semestre 1 : 26/09/2022- 06/01/2023
  - no lecture weeks: 44 (All Saints), 51 and 52 (Christmas)
  - 16, 17 and 18 november: Sophia Summit

- Semestre 2 : 9/01/2023 - 31/03/2023
  - No lecture week: 8

- Internship from 1 april, almots 15 weeks

S1 – Semester One – 30 ECTS

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- Refresher – 4 ECTS
  - Basic Probability
  - Basic Algebra for Data Analysis
  - Basic Algorithmics
  - Methods and tools for technical and scientific writing
- Statistics – 6 ECTS
  - Statistical inference theory
  - Statistical inference practice
- Data Mining – 9 ECTS
  - A general introduction to Machine Learning
  - Processing large datasets with R
  - Technologies for Big Data with Python
- Data visualization and management – 9 ECTS
  - Security and ethical aspects of data
  - Distributed Big Data Systems
  - Data visualization
- Workshops and vulgarization – 2 ECTS

In order to validate the semester:
you have to validate each teaching unit

S2 – Semester two – 30 ECTS

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- Statistical learning – 9 ECTS
  - Statistical learning theory
  - Model selection and resampling methods
  - Optimization for Data Science
- Machine Learning – 9 ECTS
  - Machine learning algorithms
  - Introduction to deep learning
  - Web of Data
- Personnal work– 12 ECTS
  - Cases Studies
  - Intership

- In order to validate the semester: you have to validate each teaching unit
- In order to validate the year: you have to validate each semester

Internship

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- Agenda
  - First report : 30 of may (2-5 pages → just the work description)
  - No oral evaluation
  - Report : before 31 of july
  - Grade : if final_report>10; work director + final report; final report
- The internship can be done in France or abroad and must be related to what is taught in the MSc. DSAI.
  - In France, an internship necessarily gives rise to a remuneration of about 500 euros minimum per month.
- It is your responsibility to check that the internship corresponds to what you want to do but also to highlight elements of the MSc.
  - If you do an internship purely in computer science, you will necessarily be penalized…
  - Penalization for M1 : max grade = 10

Second year

Agenda

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- Semester 3 : 12/09/2022- 31/03/2023
  - no lecture weeks: 44 (All Saints), 51 and 52 (Christmas), 8
  - 16, 17 and 18 November: Sophia Summit
  - Research project: each Wednesday or Thursday + 2 weeks (45 and 7)
- Internship from 1 April, almost 20 weeks

S2 – Semester two – 30 ECTS

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- MANDATORY – 12 ECTS
  - Bayesian Learning
  - Advanced Deep Learning
  - Introduction to Information Theory
  - Model-based statistical learning
- ADVANCED MACHINE LEARNING - 9 ECTS
  - Research Project
  - 1 of the following courses
    - Stochastic models in neurocognition and their statistical inference
    - Reasoning and decision making
    - Federated Learning - Data privacy
- ADVANCED METHODS IN AI – 9 ECTS
  - 3 of the following courses
    - Advanced Learning: functional, mixed and text data
    - Foundation of geometric methods in data analysis
    - Inverse problems in image processing
    - Medical Images
    - Deep Learning for computer vision

In order to validate the semester
you have to validate each teaching unit

Research project

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- Goal
  - The project is an opportunity to develop their organizational skills and autonomy.
  - The subjects of research projects are deliberately complicated, and require, on the one hand, the mobilization of the skills acquired during the Master cycle and, on the other hand, the search for new knowledge.
  - The work carried out must be able to position itself in relation to existing work, whether in relation to a scientific state of the art or to a comparative study of similar tools/solutions.
- Agenda
  - Research project: each Thursday + 2 weeks (45 and 7)
  - Before 30 of september → choose a subject
    - you must discuss with the researcher who proposed the topic. If he agrees to take you, tell him to send me a message.
    - When it is chosen, send me an e-mail
  - October-November
    - State of the art period → document for the 30 of novembre, 5-8 pages, LNCS format
  - December-January
    - Proposal period → document for the 15 of February, 8-12 pages, LNCS format
  - Last week of February → oral presentation

Research project

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- Your reports, like all scientific papers, must be understandable to people working in the field.
- To achieve this goal, your draft reports will be reviewed by your colleague and doctoral students who will give you feedback so that you can improve them.

→Between 1 to 10 December for the state-of-art report

→No feed back for the final reports

→Lncs style: https://www.springer.com/gp/computer-science/lncs/conference-proceedings-guidelines

→Final Grade = Evaluation by the person who proposed the topic + Final report + Oral presentation

→ No grade for intermediate report, just an opportunity to improve it

Internship

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- Agenda
  - First report : 30 of may (5 pages → just the work description)
  - Oral evaluation : last week of august
  - Final report : 15 of august
  - Grade : if oral >10; 2*work director + 2*oral + 1*report; oral
- The internship can be done in France or abroad and must be related to what is taught in the MSc. DSAI.
  - In France, an internship necessarily gives rise to a remuneration of about 500 euros minimum per month.
- It is your responsibility to check that the internship corresponds to what you want to do but also to highlight elements of the MSc.
  - If you do an internship purely in computer science, you will necessarily be penalized…
  - Penalization for M2 : max grade = 6

Some others remark

Communication canal

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- **Use you student email**

- All communication takes place via slack
  - 1 channel per lecture
  - 1 global channel for all M1 students and another for M2 students
  - 1 global channel for internships
- Except for the 2 M2 courses managed by another MSc.
  - Stochastic models in neurocognition and their statistical inference
  - Reasoning and decision making

- Schedules are here:
  - M1: https://calendar.google.com/calendar/u/0?cid=NHZlaThrcjJzYXVkYnV2MDhrMnZpajBzZmtAZ3JvdXAuY2FsZW5kYXIuZ29vZ2xlLmNvbQ
  - M2: https://calendar.google.com/calendar/u/0?cid=bDdiZ2U4czJrazNhZDAyaXFuajIzMTNxN29AZ3JvdXAuY2FsZW5kYXIuZ29vZ2xlLmNvbQ

5 types of plagiarism to avoid
https://learn.g2.com/plagiarism

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1. Missing quotation marks and author attribution
2. Buying a paper from an essay-writing website
3. Turning in someone else's work as your own
4. Having somebody rewrite sections of your paper
5. Using old work you previously wrote as "repurposed" content

We use a software in order to detect plagiarism for report → plagiarism = exclusion from the university

Courses

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- Attendance at classes is mandatory
  - Nevertheless, in case of illness or if the University management requires it, you must stay at home → **send a mail with justification to Lea**

- For the September month, for foreign student, only if requested, the courses can then be followed at a distance
  - Zoom via streaming or recorded
  - The materials or activities can be disseminated through GitHub, Moodle (lms.univ-cotedazur.fr) or Slack

- Each teacher chooses how to proceed.
  - The recommendation of the MSc is to **use slack or lms in order to have a record of the exchanges** (not email)

Questions ?

- Copy of the slide are sended to slack: #general