09h45-10h55
DS4H Minors’ presentations
Anne-Laure Simonelli

https://ds4h.univ-cotedazur.eu/minors
DS4H Minors in a nutshell

- 3 ECTS
- On Thursday mornings
- No pre requisite *
- From mid-Feb to mid-April
- In English

https://ds4h.univ-cotedazur.eu/minors
09h45-09h50

Accessibility and Universal Design

https://ds4h.univ-cotedazur.eu/education/minor-accessibility-and-universal-design

Speaker: Marco Winckler
Marco.WINCKLER@univ-cotedazur.fr
Areas: Computer Science, Ergonomics, Law

Lecturers: Marco Winckler (UCA, I3S)
           Pierre Thérouanne (UCA, LAPCOS)
           Mai-Anh Ngo (UCA, GREDEG)
           Jérôme Dupire (CNAM, Paris)

Coordinators: Marco Winckler, Pierre Thérouanne

Location: campus SophiaTech, campus Saint Jean d’Angély, zoom
Why Accessibility?

• “Accessibility is ease of use of a product, a service, an environment or a facility, regardless of individuals' capabilities.” (Standard ISO 9241, 2008).

• Multiples implications for:
  • Understanding individuals capabilities
  • Design of assistive technology
  • Regulations and laws for making social impact
Situationally induced impairments and disabilities (SIID)

“Both the environment in which individuals are working and their current [activities] ... can contribute to the existence of impairments, disabilities, and handicaps.”

Andrew Sears & Mark Young (2003)
When was the last time you...
Use curb cut?
Went through an automatic door?
((FEMALE))

THE SURF PROGRAM HAS GIVEN ME A GENERAL IDEA OF WHAT IT TAKES TO BE A SCIENTIST.
Assistive technology, a few examples
Why Accessibility and Universal Design?

- People autonomies makes life easier for all!
- We always might have hard time in life
- As the winter... aging is coming...
- Making money
- So we all concerned
Overview of the programme

- Definition of accessibility and universal design; Current views on impairment, disability, and handicap.
- Social issues and simulations of handicap situations (physical limitations, use of a screen reader).
- Visual, auditory, motor and cognitive impairments and the resulting disabilities.
- Assistive technologies for visual interfaces: responsive design; video games accessibility.
- Guidelines for designing computer interfaces ensuring access for all.
- Legal regulatory issues; overview of different cases (e.g., American Section 508); Deep examination of recent European directives.
- Models of accessibility and universal design.
- Recommendations from the World Wide Web Consortium about tools and web content to make the Web accessible to all; Methods for checking web accessibility.
<table>
<thead>
<tr>
<th>Date</th>
<th>Lecturer</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb 24</td>
<td>Marco Winckler</td>
<td>Introduction to accessibility and situationally induced impairments and disabilities</td>
</tr>
<tr>
<td>March 3</td>
<td>Jérôme Dupire</td>
<td>Assistive technologies and video games accessibility</td>
</tr>
<tr>
<td>March 10</td>
<td>Mai-Anh Ngo and Pierre Thérouanne</td>
<td>Social issues and simulations of handicap situations</td>
</tr>
<tr>
<td>March 17</td>
<td>Mai-Anh NGO</td>
<td>Legal issues</td>
</tr>
<tr>
<td>March 24</td>
<td>Marco Winckler</td>
<td>Models of accessibility and universal design</td>
</tr>
<tr>
<td>March 31</td>
<td>Pierre Thérouanne</td>
<td>Visual, auditory, motor and cognitive impairments and resulting needs</td>
</tr>
<tr>
<td>April 7</td>
<td>Pierre Thérouanne</td>
<td>Making the Web accessible for all</td>
</tr>
<tr>
<td>April 14</td>
<td>Pierre Thérouanne, Mai-Anh Ngo, and Marco Winckler</td>
<td>Oral assessment</td>
</tr>
</tbody>
</table>
Contacts

Law
Mai-Anh Ngo <Mai-Anh.NGO@gredeg.cnrs.fr>

Ergonomics
Pierre Therouanne <Pierre.THEROUANNE@univ-cotedazur.fr>

Computer Sciences - Human-Computer Interaction
Marco Winckler <Marco.Winckler@univ-cotedazur.fr>
09h50-09h55
Artificial intelligence and Video game

https://ds4h.univ-cotedazur.eu/education/minor-artificial-intelligence-and-video-game

Speaker: David-Olivier Saban
david-olivier.saban@univ-cotedazur.fr
Artificial Intelligence and Video Games

David-Olivier Saban
Objectifs

• Introduire la notion d'intelligence artificielle
• Montrer limites
• Dédramatiser l'intelligence artificielle de manière générale
Comment l’atteindre

Nous nous appliquerons à rattacher les notions que nous verrons au jeu vidéo et nous tenterons à plusieurs reprises de nous projeter à l'intérieur des IA des jeux vidéos qui vous intéressent.

Pour ce faire, vous étudierez dans ce cours

- Algorithmes
- Mathématiques et modélisation
- TPs, TDs
- Ressources sur MIRO
Ce cours n’est pas

- un cours approfondi en intelligence artificielle
- ni de mathématiques appliquées
Ce cours vous introduira les concepts le plus simplement possible et vous donnera les clés pour mieux comprendre des documents plus compliqués ou vous donnera envie d'aller plus loin dans d'autres cours.
09h55-10h00

Deeptech Entrepreneurship

https://ds4h.univ-cotedazur.eu/education/minor-deeptech-entrepreneurship-1

Speaker: Olga Pabion
olga.pabion@univ-cotedazur.fr
Minor Deetech Entrepreneurship
Objectives

- Strengthening the links between research and entrepreneurship
- Raising awareness and training doctoral students in entrepreneurship
- Understanding the challenges of a territory in the development of its deeptech ecosystem
- Understand the challenges of disruptive innovations
- Knowing how to discern the economic potential of a scientific asset
- Know how to communicate and finance your project
- Mastering the basics and the challenges of IP
<table>
<thead>
<tr>
<th>Day</th>
<th>Session</th>
<th>Speaker</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>24/02</td>
<td>Deeptech Entrepreneurship Overview</td>
<td>Florent Genoux</td>
<td>9AM – 12PM</td>
</tr>
<tr>
<td>03/03</td>
<td>Intellectual Property Strategy</td>
<td>Michel Callois</td>
<td>9AM – 12PM</td>
</tr>
<tr>
<td>10/03</td>
<td>Identify the right market for your Innovation</td>
<td>Guillene Ribiere</td>
<td>9AM – 12PM</td>
</tr>
<tr>
<td>17/03</td>
<td>Developing relevant and innovative business model</td>
<td>Galena Pisoni</td>
<td>9AM – 12PM</td>
</tr>
<tr>
<td>24/03</td>
<td>Project Management for disruptive innovation</td>
<td>Melissa Michelet</td>
<td>11AM – 2PM</td>
</tr>
<tr>
<td>31/03</td>
<td>Production Challenges</td>
<td>Christophe Imbert</td>
<td>9AM – 12PM</td>
</tr>
<tr>
<td>07/04</td>
<td>Financing your Startup</td>
<td>Nicolas Riche</td>
<td>9AM – 12PM</td>
</tr>
<tr>
<td>14/04</td>
<td>Creating a Pitch</td>
<td>Sophie Monteil</td>
<td>9AM – 12PM</td>
</tr>
</tbody>
</table>
Minor Deetech Entrepreneurship
More Details

Evaluation
Attendance + final quiz

Language
English

Online session
by Zoom (replay available)
10h00-10h05
Digital Intellectual Property and Law

Speaker: Anne-Laure Simonelli
The team
The institutions
Les 4 modules

PERSONAL DATA PROTECTION

COMPETITION LAW

INTELLECTUAL PROPERTY LAW

DATASPHERE AND THE LAW
Personal data protection
Brad Spitz

• The collection, processing and exploitation of data is at the heart of the digitalization of commercial and civil exchanges.

• This new reality is at the origin of new rights and obligations, including the entry into force of the General Regulation on Data Protection in Europe (GDPR).

• This part of the course is intended to draw up an inventory of current regulations in this area and its practical consequences for companies.
Competition law applied to digital markets

Frédéric Marty

• Understanding the issues related to algorithms-driven economy for contractual, consumer, and competition laws
• Analysing the competition between and within ecosystems
• Mastering the regulations related to competition on online markets
• The development of IT, with its new developments (AI, Blockchain, smart contract), is at the heart of technological innovation.

• These technologies can be considered as property objects for the benefit of their creators.

• This part of the course is intended to reveal the mechanisms of intellectual property and, more specifically, those dedicated to the protection of digital innovations.

Intellectual Property law (software production law, copyright, open source)

Eva Thelisson
THE SITUATION
The development and rise of information technologies
The digitalization of all (natural and human) activities
The quantity of data has increased exponentially

A HYPOTHESIS (I)
Data gave rise to a new space, the “datasphere”
Sort of image of the physical world, with traces of activities including our position at any given moment, our exchanges, the temperature of our homes, financial movements, trading of goods or road traffic, etc.

A HYPOTHESIS (II)
Flows of data beyond control
The control over data flows of the main actors of the digital sphere raises new challenges to governance
These flows have to be considered with scrutiny, under the assumption of total flow without control
In specific or temporary situations they escape all or part of the control of the actors, including those who lead them.
VARIOUS APPLICATIONS (CASE STUDIES)

- Platform activity
- The portability of digital content services in intellectual property law
- The right to be delisted
- The transatlantic transfer of personal data
10h05-10h10
Innovation and Creativity
https://ds4h.univ-cotedazur.eu/education/minor-innovation-and-creativity

Speaker: Cindy De Smet
cindy.de-smet@univ-cotedazur.fr
Minor Innovation and Creativity

[Play the video]
The “Innovation and creativity” course aims to develop the creative competencies of the participants, learn them how to think out of the box or how to generate more qualitative ideas. We achieve this through a series of exercises and activities in which individual and collaborative approaches will be developed.

Students embark on a journey of both self-introspection and collective effort with their peers. They are invited to leave their comfort-zone and to push their boundaries.
Course content

5 chapters:

• We discuss the link between innovation and creativity...
• You’re invited to think like Leonardo da Vinci, to shut down your smartphone to discover your creative self and to enhance your creative abilities...
• You learn how to picture your ideas...
• You discover how collaboration leads to the generation of creative ideas...
• And you explore the link between creativity and critical thinking
Minor Innovation and Creativity

Course Modalities

100% online course + 2 online tutoring sessions

Date:
24/02 18:30 PM
17/03 18:30 PM

Two tasks (assignment module LMS)

Theoretical basis of this course

Creativity has been a very popular research topic since the 1950s.

In this course, besides an introduction to creativity (chapter 1) and a short reflection on the ethics of creativity we will mainly focus on creativity techniques to promote idea generation.
Since September 2019, 100 students passed this course as a DS4H minor.

“I thank you for all your efforts and I am really happy to have passed this minor. It is not only a minor but also instructive because of the personal development included in the articles. I read Chris Lewis' book thanks to you.”

“This course has given me a lot of good things. All the knowledge you shared with us is really necessary and useful. It helps me a lot, not only for work but also for everyday life, in my "creative" life.”

Note: anonymised comments
10h10-10h15
Innovation & Design Thinking
https://ds4h.univ-cotedazur.eu/education/minor-innovation-and-design-thinking

Speaker: Olga Pabion
olga.pabion@univ-cotedazur.fr
The Innovation & Design Thinking minor aims to train students in innovation, creativity, and 21st-century skills while proposing solutions to challenges faced by businesses and other organizations.

Choose **3 workshops** among the 4 below:

- Design Thinking
- Game Design
- Identify Your Talent
- Ai For Business

Each workshop will be evaluated and will constitute an independent grade.

**Espace Vernassa**
**Campus Saint-Jean d’Angely**
Innovation & Design Thinking

MINOR

Nicolas BRUNO

What's in the workshop?

Design Thinking

The Design Thinking is an innovation approach based on the notion that, to innovate, it is necessary to connect with people, understand the user's real needs, and explore the whole context of the project with a constant attitude of research.

Game Design

The main objective of the "Game Based Learning. From design to the learner experience" course, is to develop competencies for the analysis, design, pedagogical integration and evaluation of serious games and digital game based learning activities in an educational setting.

Identify Your Talent

This workshop will provide an answers to questions such as: What am I naturally good at? What skills and career path would suit my superpower?

Ai For Business

The course aims to offer an introduction to the broad theme of Artificial Intelligence, with a focus on three major areas Robotics, Machine Learning, Natural Language Processing.
<table>
<thead>
<tr>
<th>Day</th>
<th>Session</th>
<th>Speaker</th>
<th>Hours</th>
<th>Time</th>
<th>Language</th>
<th>Places</th>
</tr>
</thead>
<tbody>
<tr>
<td>24/02</td>
<td>Identify Your Talent</td>
<td>Nelly Farrugia</td>
<td>9h - 14h</td>
<td>10h</td>
<td>French</td>
<td>10</td>
</tr>
<tr>
<td>10/03</td>
<td>Design Thinking</td>
<td>Eric Guerci</td>
<td>9h - 13h</td>
<td>8h</td>
<td>English</td>
<td>35</td>
</tr>
<tr>
<td>10/03</td>
<td>Game Design</td>
<td>Margarida Romero</td>
<td>9h - 13h</td>
<td>8h</td>
<td>English</td>
<td>35</td>
</tr>
<tr>
<td>07/04</td>
<td>Ai For Business</td>
<td>Eric Guerci</td>
<td>9h - 13h</td>
<td>8h</td>
<td>English</td>
<td>35</td>
</tr>
</tbody>
</table>
10h15-10h20
Introduction to Scientific Research
https://ds4h.univ-cotedazur.eu/education/minor-introduction-to-scientific-research-and-experiment

Speaker: Fabien Ferrero
fabien.ferrero@univ-cotedazur.fr
Being born a genius...

... or not,

under all circumstances,

scientific methodology will help you think, understand, deduce, anticipate... in a remarkably efficient manner.
Scientist is a profession, but also a way to be.

Science has rules, practices, methodology...

Work the scientist out of you!
Far beyond the film that made Woody Allen famous ...

Everything you always wanted to know about science (But were afraid to ask)
Minor Introduction to Scientific Research

Epistemology (*Eric Picholle, INPHYNI*)
Research : a vocation (*Anne-Laure Simonelli, DS4H*)
Method for research (*Marco Winckler, I3S*)
Bibliography (*Sid Touati, I3S/Inria*)
Scientific writing (*Fabien Ferrero, LEAT*)
Hands-on workshop : experiments and statistics (*Sid Touati, I3S/Inria*)
Hands-on workshop : antenna measurements (*Claire Migliaccio, LEAT*)
Deontology (*Anana Postoaca, GREDEG*)
PhD and opportunities (*Anne-Laure Simonelli, DS4H*)
Scientific collaborations (*Fabien Ferrero, LEAT*)
Article analysis (*Gilles Bernot, I3S*)
*Oral evaluation* : report on hands-on workshops and Article analysis
Prerequisites:
none

Capacity:
24 students (including students from EUR SPECTRUM)

Evaluation:
- Bibliographic report
- Oral presentation of the hands on workshops
10h20-10h25
Tools 2 Communicate
https://ds4h.univ-cotedazur.eu/education/minor-tools-to-communicate

Speaker: Anne-Laure Simonelli
anne-laure.simonelli@univ-cotedazur.fr
Tools 2 Communicate

To become aware of the importance of becoming an effective communicator.

To identify the audience, the main purpose of the communication and adapt the communication adequately.

You’ll learn:
• how to communicate specifically to enter the work force
• how to communicate effectively to a wider audience
Tools 2 Communicate

How to communicate specifically to enter the work force

How to write / improve your CV...

... a cover letter / an email

with Sylvain Lareyre (Employment Branding Consultant)
How to set up and edit my LinkedIn profile + personal branding

NB! Professional photo shoot offered at the end of the session
Internships/Apprenticeship/job search strategies: spontaneous application, jobbards, cooptation / networking, being hunt...

How to prepare a job interview

Get ready to enter the workforce
The job market: Parallel sessions organized

- IT job market
- Strategy Digital
- Electronic job market
- Law

How to communicate effectively to a wider audience
Short Video production
Oral communication
Prerequisites:
To already have a LinkedIn Profile created and a written Resume/CV

Capacity:
15 students

Evaluation:
• Engagement throughout the session (10 %)
• Quality of revised CV (30%)
• LinkedIn Profile (30%)
• Short video production (30%)
10h25-10h30
New Technologies Law
https://ds4h.univ-cotedazur.eu/education/minor-new-technologies-law

Vincent De Bonnafos
vincent.debonnafos@univ-cotedazur.fr
Vincent de Bonnafos is presenting the Minor New Technologies Law

Your turn to provide legal advice!

2nd semester 2021-2022
New Technologies Law

Minor Content:

Legal Advice on Real Life Case Studies

1. Designing a connected toy for children
2. Implementing a facial recognition tool for identification purposes
Learning outcomes

You will learn:

. How a legal department in a commercial company operates;

. How to prepare, organise and provide legal advice;

. How to tackle complex and innovative projects from a legal perspective.
Legal issues tackled

We will get your hands and legal reasoning on subjects such as:

internet of things, protection of personal data, sensitive data, data storage, access and processing, processing of data through algorithms and artificial intelligence solutions, sensitive data, client identification, information and consent

and many more!
10h30-10h35
Organize Your Activity in Project Mode
https://ds4h.univ-cotedazur.eu/education/minor-organize-your-activity-in-project-mode

Emmanuel Le Roy
emmanuel@leroy.li
Organize your activity in project mode
Organize your activity in project mode

What you will learn:

• How to formalize an idea in a project and make a first assessment about its feasibility
• How to define the initial scope of a project and why it is important
• How to manage risks and control quality of your project
• How to manage people and monitor cost, time and scope along your project
• Why communication is essential to the success of a project and how to do it properly
• How to introduce Agility in your practices and to maximize the value created by your projects

• EVALUATION
  • Engagement / participation (15%)
  • Assignment: Project charter (50%)
  • Final exam (35%)
10h35-10h40
Programming 3D Games on the Web
https://ds4h.univ-cotedazur.eu/education/minor-programming-3d-games-on-the-web

Speaker: Michel Buffa
michel.buffa@univ-cotedazur.fr
Summary

• You will learn
  • The basics of smooth 3D programming using a cutting edge library (BabylonJS)
  • Learn how to use: 3D character animation, physic engine, particle engine, etc.
  • Go further with JavaScript / TypeScript programming
  • Eventually practice Blender 3D

• Develop a complete 3D game at 60 frames / seconds

• Participate to the Games on Web 2022 challenge
  • The game developed for the challenge can be submitted to the challenge (11K euros of prizes!)
  • If you already started to develop something for the challenge, it will count for the course.

• The course is NOT online, but we will get support from BabylonJS developers
• Evaluation is in two steps
  1. Small TP to finish and submit - Submission deadline: March, 20nd
  2. Final Project - Submission deadline: April, 30th (compatible with the Games on Web 2022 challenge, can be done in team of 2-3 persons)

• Step 1 represent 20% of the final grade
• Step 2 represent 80% of the final grade
10h40-10h45
Website Creation Workshop
https://ds4h.univ-cotedazur.eu/education/minor-website-creation

Nicolas Fogliarini
nicolas@rr3films.com
Introduction on various online portfolio’s platforms

Website / Online Portfolio creation from scratch:

Practical courses
Minor in details

Introduction on various online portfolio's platforms
Video: Vimeo / Youtube / Smash
Graphic design: Behance
Sites: wordpress / wix
Selling your work on platforms: behance / fiverr / 5euros / malt

Website / Online Portfolio creation from scratch:
Writing the specs of your future portfolio
Finding and buying a domain name + hosting plans (need a small investment for each student)
Choosing between Wix and Wordpress
Finding the right theme and plugins
Creating content using adobe suite or free services (canva, pixabay)
Uploading using FTP client
Security (backup / SSL)
Google my business creation
Working on your Linkedin page and your personal online presence.

Creating your own personal online portfolio
At the end of the minor, the students will be noted on their online portfolio creation.
Expected Schedule

February 3rd Kick off

**February 14th** 3 hours (9h-12h)

**March 3rd** 3 hours (9h-12h)

**March 10th** 3 hours (9h-12h)

**March 17th** 3 hours (9h-12h)

**March 24th** 3 hours (9h-12h) + 1 hour of live tutorial session (18h30 – 19h30)

**March 31st** 3 hours (9h-12h) + 1 hour of live tutorial session (18h30 – 19h30)

**April 7th** 3 hours (9h-12h) + 1 hour of live tutorial session (18h30 – 19h30)
10h45-10h50
Quantum Technologies
https://ds4h.univ-cotedazur.eu/education/minor-quantum-technologies

Speaker: Virginia D’Auria
virginia.dauria@univ-cotedazur.fr
Quantum Technologies
&
Quantum Engineering

Virginia D’Auria and Olivier Alibart
MdC à l’Institut de Physique de Nice
$	ext{Quantum Technologies}$

Use quantum physics to perform tasks unaccessible to classical devices

$	ext{Communication}$
$+$
Increased security

Yin et al., Science 356, 6343 (2017)

$	ext{Computation}$
$+$
Reduce computation time

Kelly et al., Nature 519, 7541 (2015)

$	ext{Simulation}$
$+$
Simulate physical system

Britton et al., Nature 484 (2012)

$	ext{Metrology}$
$+$
Increased sensitivity

Abbrott et al., PRL 116, 061102 (2016)

Towards Quantum Internet of Things

Flagship Européen :
1 Md€ over 10 years

Plan Quantique National :
1.8 Md€ over 5 ans for French Quantum Industry
New needs and new professions

Some considerations:

- A growing interest for Q. Technos: research, government, industry

In France:

(Plan QUANTIQUE: 16,000 direct employments in 2030)

Anticipate the demand for technological and human resources
Nouveaux besoins et nouvelles professions

Some considerations:

- Operational Q. Technos and their exploitation

INNOVATION by COOPERATION:
New « Polyglot » professional profiles
This minor: Quantum Technologies

Masters SPECTRUM & DS4H

A very progressive approach, strongly oriented toward the applications

Some basic concepts (niveau débutant)

Motivation/Needs (Ideas and key concepts)

Practical application (from fundamental science to engineering)

Challenges (conceptual et technological)

Transversal skills:

- Learn Q. techno language
- Understand the interest of Q. Technos
- Know Q. technos panorama (research, industry...)
Practical Organisation

8 sessions : 2 parts

- 5 sessions : CM at campus Valrose (possibility of hybride)
  (Basic of Q. Information, Q. Computing/Simulation, Q. Metrology, Q. Communication, Q. Engineering)

- 3 sessions : Workshop on chosen case studies
  Oral presentation with support (vidéo, site web, poster…)

Acquired competence evaluation

Precondition: linear algebra (niveau L1/L2, adjustable based on the class level)

Pedagogical team : INPHYNI, pilot of the first quantum network of France here at UCA!
Thank you for your attention

Virginia.DAURIA@univ-cotedazur.fr
Olivier. ALIBART@univ-cotedazur.fr