



PARIS ARTIFICIAL INTELLIGENCE FOR SOCIETY

## Hi!ckathon 2

Kick Off - Feb 1<sup>st</sup>

# Agenda

- I. What is Hi! PARIS?
- II. AI & Sustainability : challenges and opportunities
- III. Hi!ckathon 2 by Hi! PARIS
  - a. Registration Process
  - b. Preparation and Skills Building  
 courses,  Q&A, and  presentations
  - c. Final Sprint
- IV. Digital tools presentation
- V. Q&A



# Who are we?

## The Hi! PARIS project team



Gaël Richard  
Executive Director – Hi!  
PARIS



Beatrice Arnulphy  
Project Manager – Hi!  
PARIS



Emmanuel Gobet  
Professor - Polytechnique



Vincent Fraitot  
Professor - HEC



Ghislain Mazars  
Founder – Ubeeko

## Preparation & animation team Capgemini



Eloi Jabet  
Managing consultant



Ghita Laissaoui  
Consultant



Alioune Ka  
Data Scientist



Mohamed Ihaddadene  
Data Scientist



Yassine Loqmane  
Consultant



Thibault Venet  
Data Scientist

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## What is Hi! PARIS?

**Hi! PARIS** is a multidisciplinary center on AI and Data Analytics for Science, Technology, Business, and Society

Created in September 2020 by leading institutions:



With the support of 5 corporate donors:



## Objectives of Hi! PARIS

**The objective is to become a world-class center in AI and Data analytics competing with the very best institutions**

- **Breakthrough multidisciplinary research**

- ✓ Need for frontier research going from fundamental research on **methods for AI** and data analytics to **business applications** across all sectors and **implications for society**

- **Breakthrough for the French "elite" higher education**

- ✓ Exponential growth of data available and AI capability implies a **massive need** in **all sectors of the economy** for graduates with an expertise in **both** (data) science and management

- **Breakthrough eco-system for innovation**

- ✓ The IP Paris - HEC Paris Alliance is an opportunity: complementary human capital, existing incubation facilities (and new services at post-incubation stage)



## Main Research Domains @Hi! PARIS

### Foundations of AI and Machine Learning

- Reinforcement learning, deep learning, mathematics for AI, Natural language processing, federated learning, simulations...
- Symbolic AI, Interpretable and explainable AI, Cybersecurity, data, frugal AI, privacy...

### AI and Data Science for Business

- Digital transformation, AI for marketing or finance, Data economy...



### AI and Data science for Society

- Sustainable AI, AI for climate, Ethics and bias in AI, robotics, neurosciences, AI and justice, AI and health...

## Main Activities and Programs @Hi! PARIS

### Recruitment and Fellowships

- Chairs (*Professor recruitment*) include a hiring package (*research budget for PhD, postdocs,...*)
- Fellowships (*internal call*): research projects, different seniority levels, very selective with commitment (*ERC proposal, minimum teaching duty in AI*)
- Evaluated by the Scientific Advisory Board (*SAB*)

### Hi! PARIS Scientific activities

- Engineering cell, Data-Factory
- Call for scientific collaborative projects (*up to 30k€/project*)
- Phds, PhD tracks in IA
- Invited professors
- Scientific events (Webinars, meetup, workshops, Reading groups)
- Data Boot Camp
- Summer School
- Hackathon



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AI has the potential to help in the accomplishment of most of the targets of the Sustainable Development Goals (SDGs) in the three groups : Society, Economy and Environment

Looking at Climate Action (SDG 13), there are many AI-based technologies already developed that have supported the understanding of climate change and the modeling of its possible impacts.

AI remains a tool and its impact over the planet and society depends on the ends for which it is used.  
E.g., AI-based technologies and an increased access to data may drive over-exploitation of resources or the manipulation of population.



**Source:** The role of artificial intelligence in achieving the Sustainable Development Goals | Nature

# The environmental cost of Artificial Intelligence

11

AI for sustainability holds great promise but is lacking in one crucial aspect: assessing and addressing the environmental impact from the development of AI itself.

‘Google’s AlphaGo Zero generated 96 tonnes of CO<sub>2</sub> over 40 days of research training which amounts to 1000 h of air travel or a carbon footprint of 23 American homes.

The tools to track the carbon footprint of AI solutions and optimize their efficiency are already developed but greater incentives are needed to encourage researchers and industry developers to measure and report such findings.



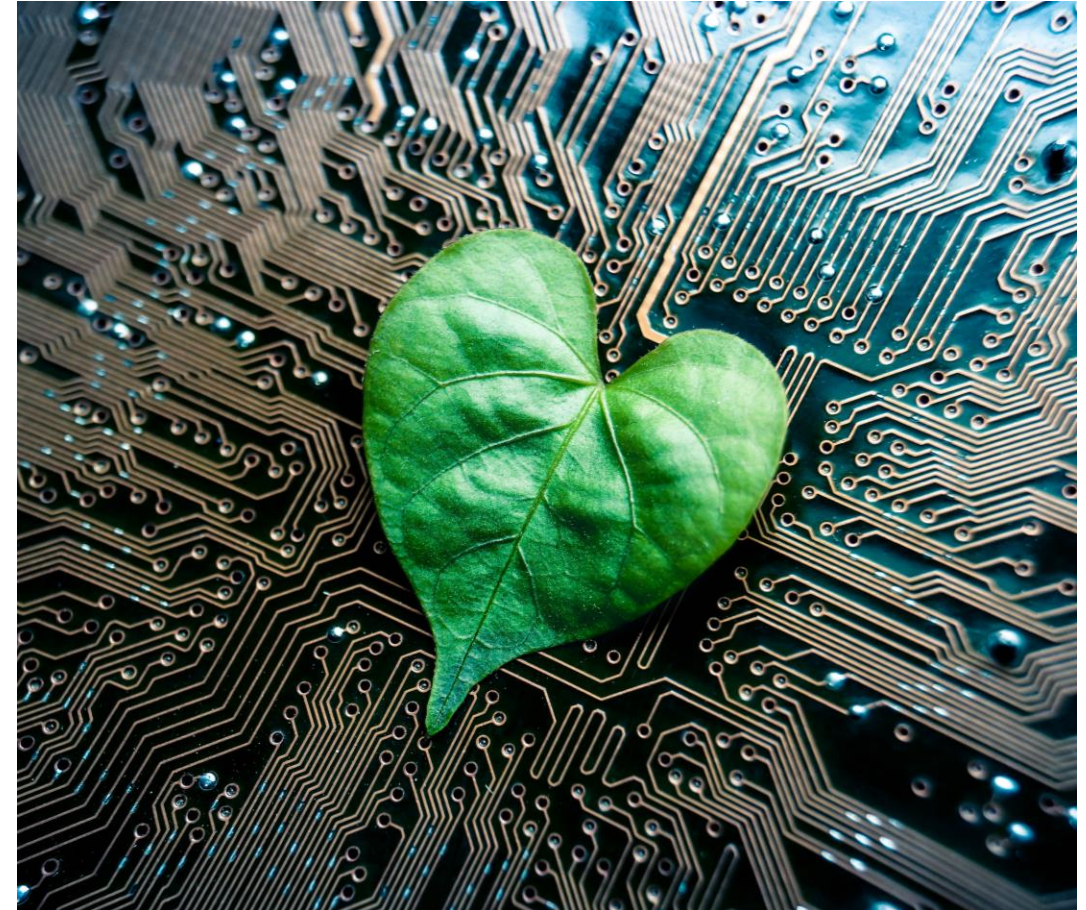
**Source:** Sustainable AI: AI for sustainability and the sustainability of AI | Springer



The development of AI for sustainability and the sustainability of AI go hand in hand.

Sustainable AI is a movement to foster change in the entire lifecycle of AI products (idea generation, training, re-tuning, implementation, governance) towards greater ecological integrity and social justice.

*The Hi!ckathon is the outcome of the strong ambition of French high-ranking schools (IP Paris and HEC Paris) and market leading companies (corporate donors) to educate the future leaders and scientists on the technical and ethical aspects of AI.*



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You are here because you read about this:

01.02 to 06.03

Hi! PARIS

Hi!ckathon 2

A competitive event that brings together teams of students to create an MVP to solve a Data Science problem 

→ The 1<sup>st</sup> edition took place last year and was a huge success. This 2<sup>nd</sup> edition 2022 is a long format: a 5-week educational adventure culminating in an intense hackathon on one week-end. Feb. 1<sup>st</sup> – Mar. 3<sup>rd</sup> + Mar. 5-6, 2022

→ Participants are coming from different institutions from IP Paris, HEC Paris and some other top French institutions





Lead a 35-days End-to-End Data science journey to successfully carry out your mission

*January 14<sup>th</sup> to February 14<sup>th</sup>*

- Register to the data platform Hfactory  
(Hurry, limited spots available)

## REGISTRATION PROCESS

*February 1<sup>st</sup> to March 4<sup>th</sup>*

- Follow professional e-learning courses, exercises  and Q&A sessions 
- Build an interdisciplinary team and meet insightful people

## PREPARATION & SKILLS BUILDING

*March 5<sup>th</sup> to 6<sup>th</sup>*

- Develop a data science model, a scientific procedure document, and a video of your business project

## FINAL SPRINT



## ◆ Registration process

→ Open the link

<https://app.hfactory.io/register/16/form/8>

All events registration links are shared on Hi!ckathon website: [hackathon-hi-paris.fr](https://hackathon-hi-paris.fr)

→ Fill in the digital form on the data platform  Factory



→ Submit the registration form

**Step 1. Verify your email address**

Before you can register for this activity, we need to verify your email address. This will ensure that we have the correct email address to reach you. You will be redirected back to this page once your email is verified.

[Verify email address](#)

**Step 2. Fill out the form below and submit**

**Registration form for the Hi!ckathon 2 / Formulaire d'inscription au Hi!ckathon 2**

We ask these questions in order to better know your profile and to direct you towards the best team to participate in the Hackathon 2022 - Estimated duration : 5-10 min  
 Nous posons ces questions afin de mieux connaître ton profil et de t'orienter vers la meilleure équipe pour participer au Hackathon 2022 - Durée estimée : 5-10 min

N.B. :  
 Registration for the Hi!ckathon is individual. The constitution of the teams will be done on the platform from mid-February.  
 L'inscription au Hi!ckathon est individuelle. La constitution des équipes se fera sur la plateforme à partir de mi-février.

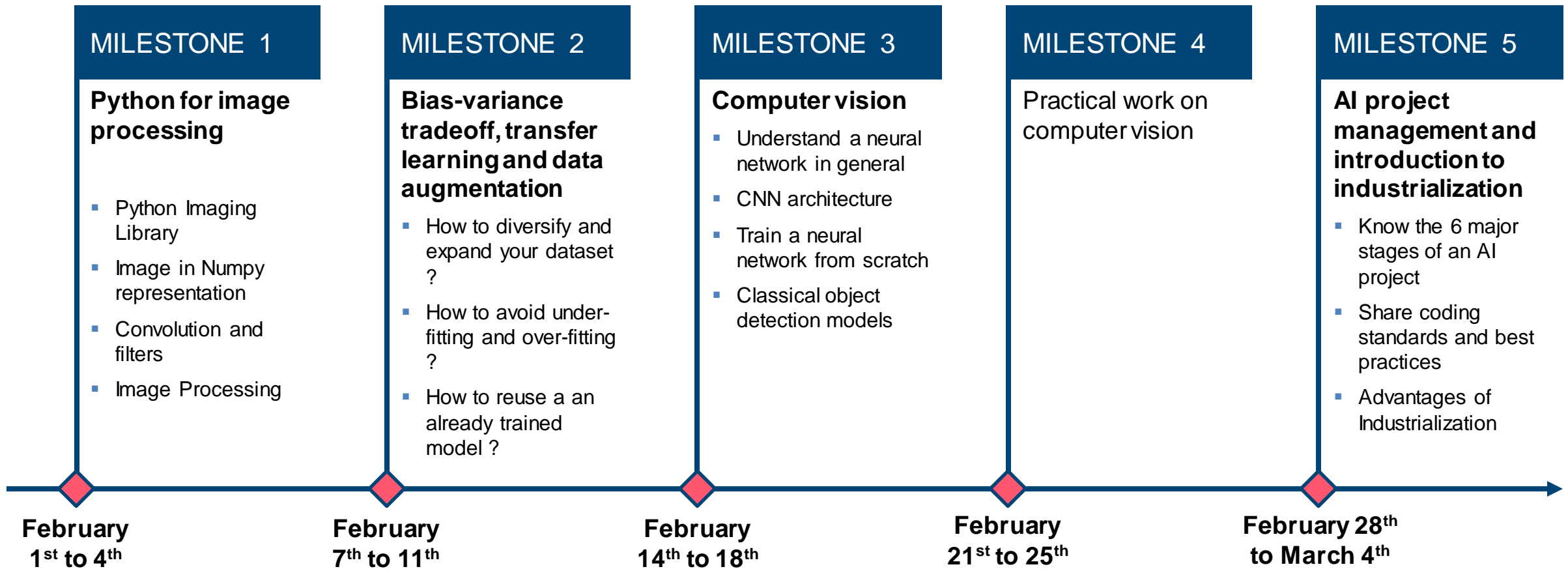
**1. What is your Last Name? / Quel est ton Nom ?\***

**2. And your First Name? / Et ton Prénom ?\***

**3. What is your academic curriculum? / Quel est ton cursus académique ?\***

## ◆ Preparation and Skills Building: Online training schedule

→ Benefit from 5 weeks of training (not mandatory) in Data Science focused on Computer Vision



## ◆ Preparation and Skills Building: Live Q&A sessions

“ Real-time online sessions aim at giving you the opportunity to ask Data Scientists about the courses’ topics, find out more on them and share best practice.

Come with questions, don't expect a lecture. Engage in discussion and share your thoughts. ”



## ◆ Preparation and Skills Building: Corporate donors' presentations



**Meet real life Data Scientists from our corporate donors in 5 “AI Sustainability Talks!”**

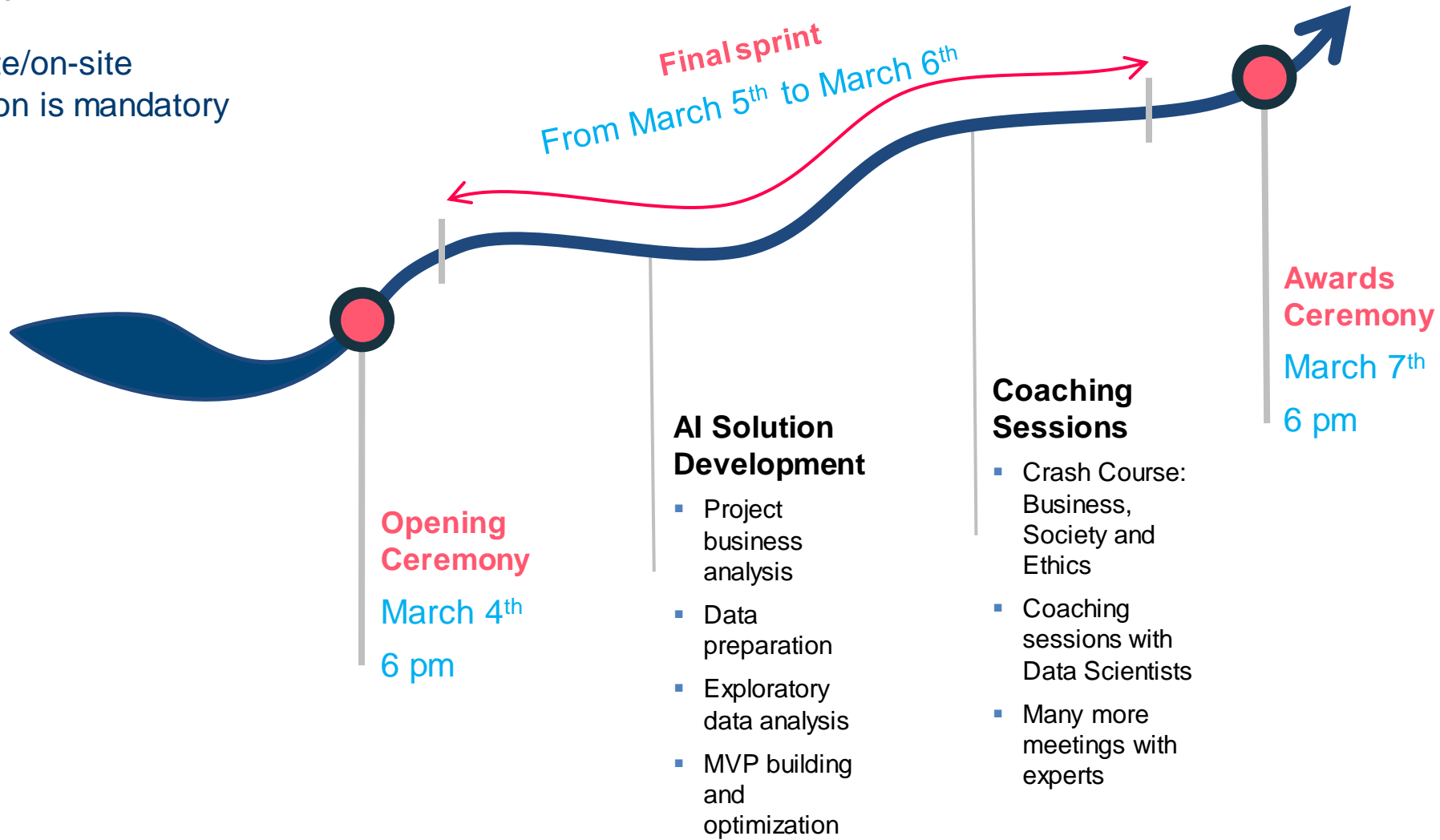
### → Many quality speakers

- Simon Gosset and Martin Chauvin, from Capgemini, to discuss CarbonAI and AI impact's measure on its entire lifecycle
- Laurent Nizard, from REXEL, to discuss sponsor use case #2
- Sébastien Guillon, from TotalEnergies, to talk about computer vision
- Vincent de Montalivet, from Capgemini, to discuss sponsor use case #4
- Nicolas Lecocq, from L'Oréal, to present Modiface technology



## Final Sprint:

Hybrid: remote/on-site  
Registration is mandatory



Five thematic rewards to the winners:

→ Win a prize and visit a corporate donor's center for AI and innovation to pursue your connections

L'ORÉAL



**L'Oréal**

**Business Opportunity**

Capgemini



**Capgemini**

**Scientific Approach**

TotalEnergies



**TotalEnergies**

**Technical Excellence**

K E R I N G



**Kering**

**Interdisciplinarity**

REXEL



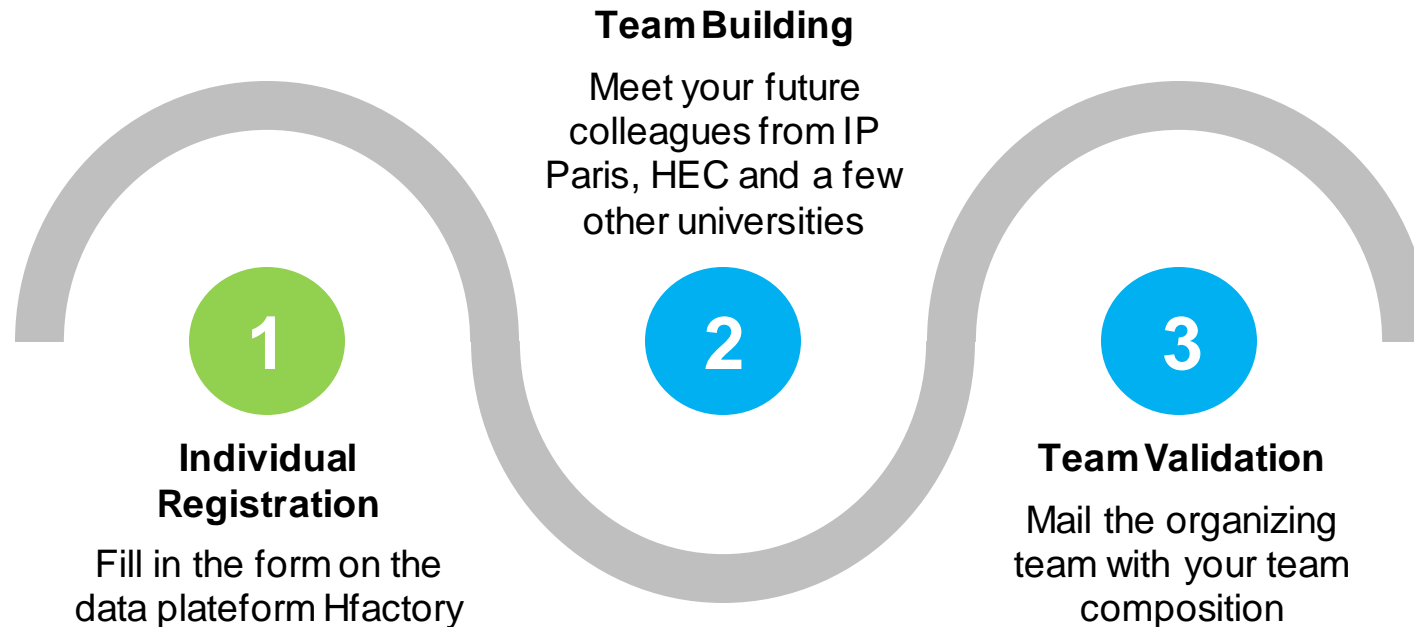
**Rexel**

**Innovation**

# Don't miss your chance to register !

The registration deadline is February 14<sup>th</sup>

Just three easy steps :





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## Working modalities

### Your tools



**ZOOM:** to follow all Q&A sessions and corporate donor presentations

- ✓ All sessions are remotely accessible through Zoom
- ✓ Ask questions, or react on certain topics directly through the platform
- ✓ All invites will be shared upfront



**Discord:** communicate, share and brainstorm with your team mates during practical exercises

- ✓ Share and communicate among the teams
- ✓ Let the animation team work with you by sharing some code on insights



**HFactory:** all content and libraries will be accessible through the Hfactory

### Before we start

- ☐ I have access to Zoom and can follow different sessions
- ☐ I can access to Discord and see my team's workspace
- ☐ I say « Hello » to my team in Discord
- ☐ I can connect to the Hfactory

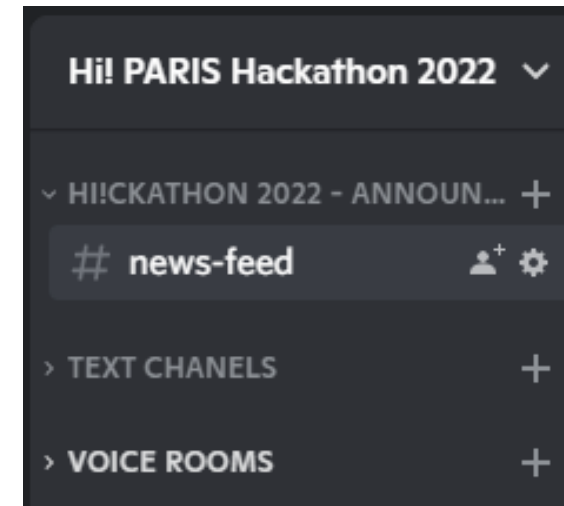
# Introduction to Discord

Srsly, do you really need this introduction?

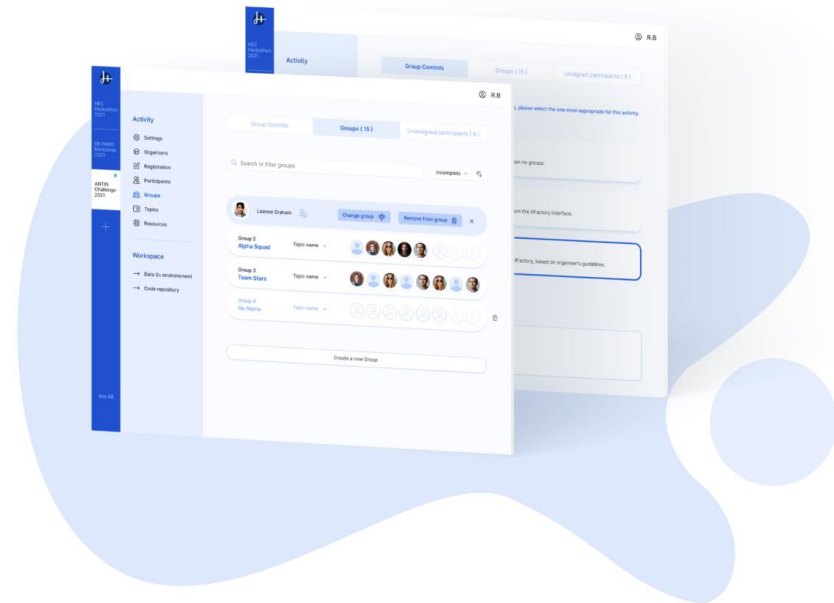
Discord



- Discord gives you the power to have a server, which is a place made up of text channels and voice rooms



- Need help with something else? We are here to help you. You can raise any issue through DM in Discord, the Q&A of Zoom or send an e-mail to: [contact@hackathon-hi-paris.fr](mailto:contact@hackathon-hi-paris.fr)



- Log in to HFactory
- Enrich your profile
- Check out the courses
- Work with the Data Science Environment
- Get started with GitLab

- You have or will receive an email invitation (from support@hfactory.io) to join the preparation for the hackathon on the HFactory application



Ghislain Mazars has created a new activity **Prepa for hackathon** on HFactory.

Discover more about it by accepting the invite:

Accept Invite

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### Activity Description

Preparation courses & exercices for the Hi! PARIS Hackathon.

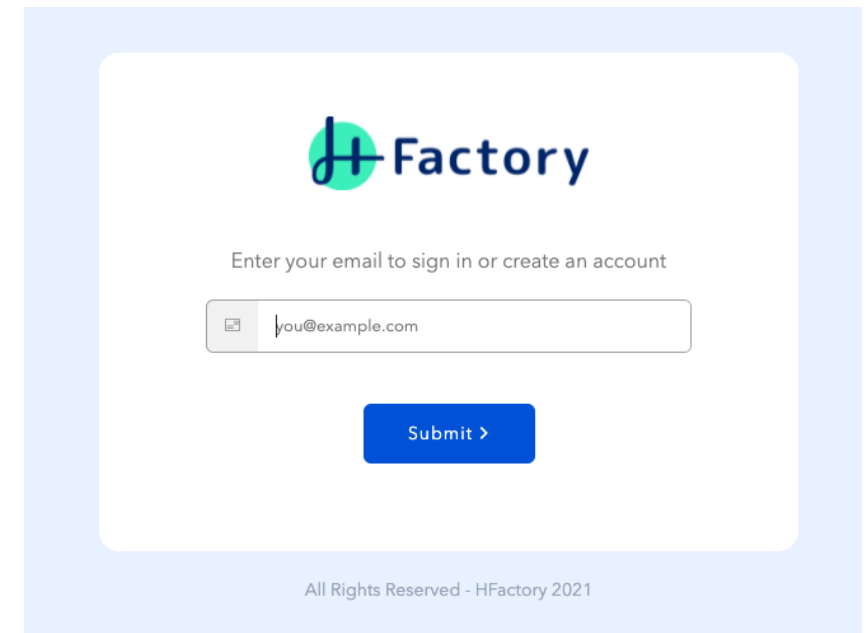
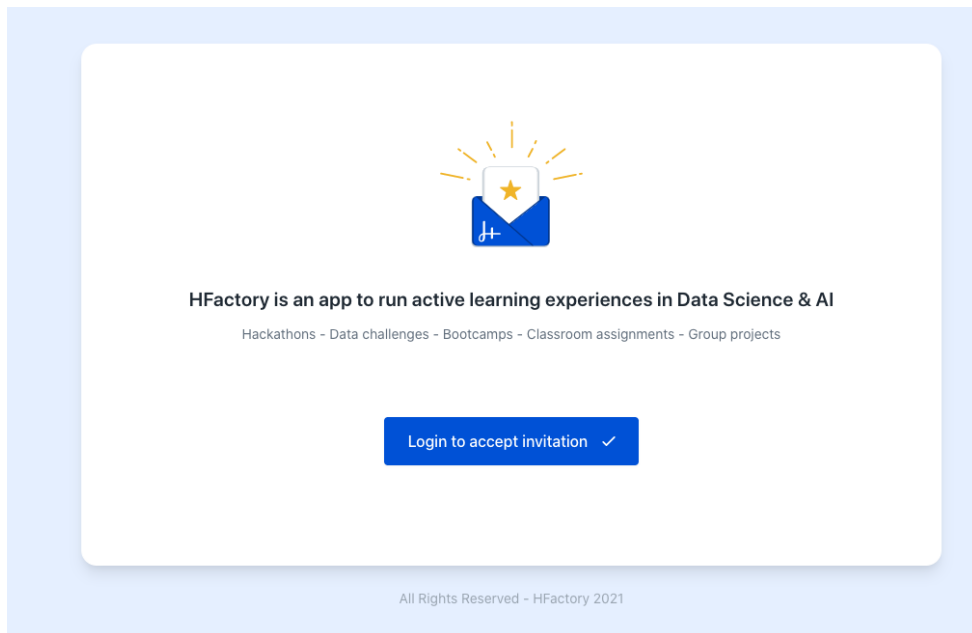
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**HFactory, your platform for engaging learning experiences**

Activity-based learning in Data Science and AI

Hackathons – Data challenges – Bootcamps – Classroom assignments – Group projects

- Please make sure you log in with the same email you used in the registration questionnaire
- This is the email address we used to send you the invite ;)



## Log in to HFactory (3/4)

- Just enter the code you will have received by email, no need to remember yet another password ;)



Your verification code is: **621207**

If you are having any issues with your account, please don't hesitate to contact us by replying to this mail.

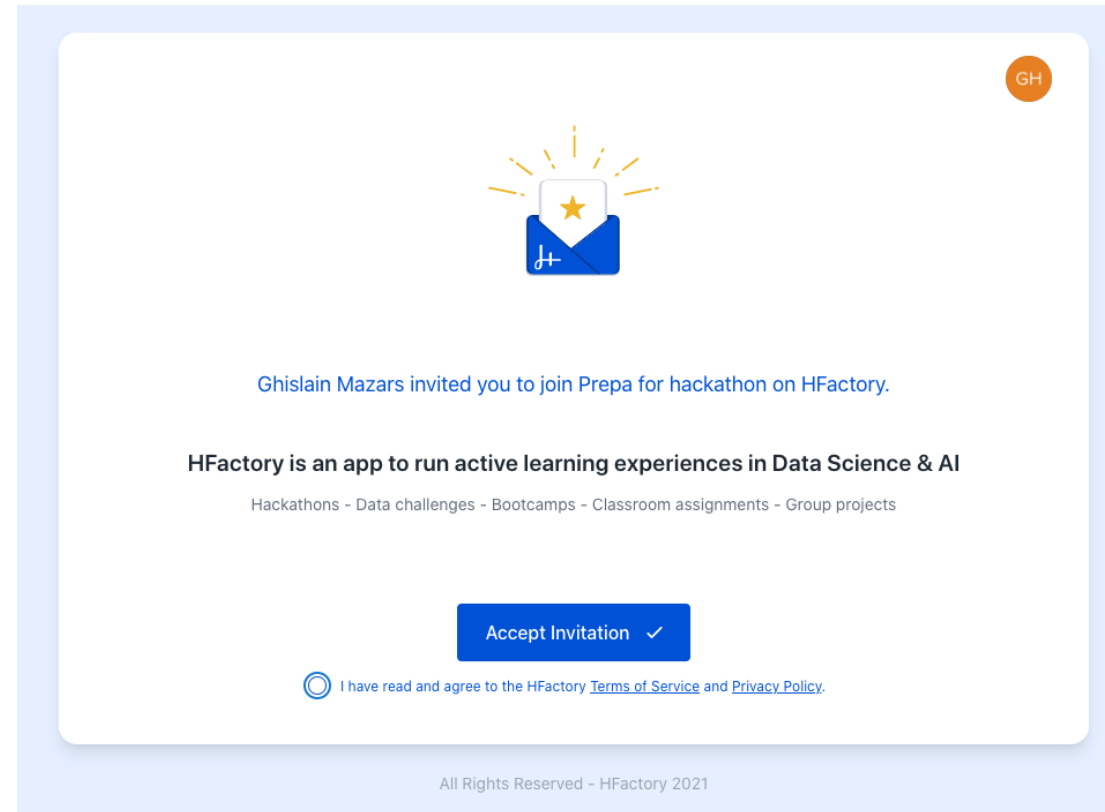
Thanks!  
**HFactory**

If you did not make this request, please contact us by replying to this mail.

A screenshot of a mobile app interface for HFactory. It shows the HFactory logo at the top. Below it, a message states: 'An email with the code has been sent to moral-wallaby-7627@onetimeusemail.com.' There is a text input field containing the code '621207'. Below the input field, it says 'Did not get the code?'. At the bottom, there is a blue button labeled 'Submit >'. The footer of the app screen says 'All Rights Reserved - HFactory 2021'.



- After a careful read, make one more display of your well-honed « I accept the terms and conditions » skills !



# Enrich your profile (1/3)

- You will be automatically redirected to your profile page upon first login
- Your full name, school and program have already been pre-filled

Looks like your profile is empty. Start filling it out using the interface on the left.

The information you provide here will be used within HFactory to:  
**Display user information in a visually pleasant manner & Facilitate the formation of diverse groups during activities**  
This profile is only visible to other participants or organisers of an activity that you are participating in.

**Personal information**

Jessica Doe

Jessica Birthdate (DD/MM/YYYY)

Gender Nationality

**Affiliations**

Hi! PARIS Org Team

Role / Title

**Technical competencies**

**Professional interests and soft skills**

Save

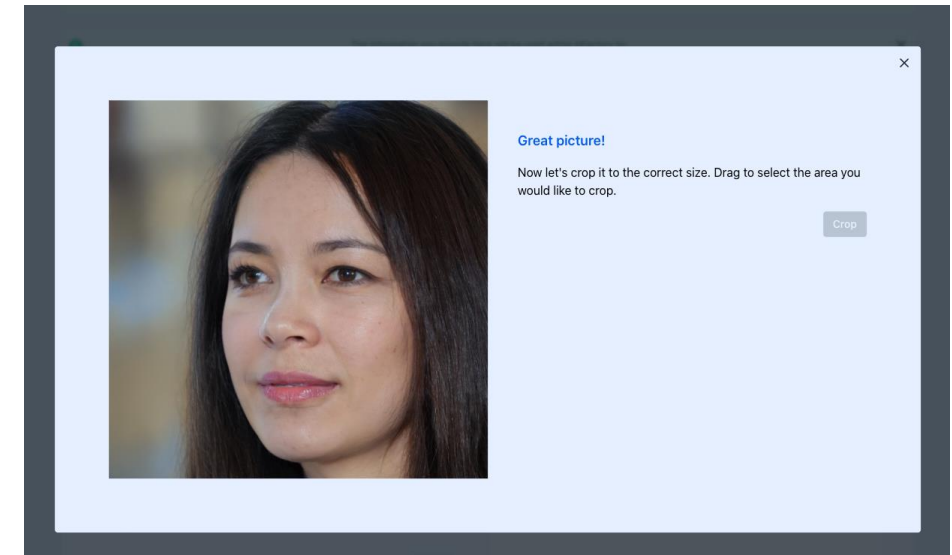
Jessica

Org Team

Hi! PARIS

Technical competencies

Professional interests and soft skills





- Once you are happy with your changes, you can save your profile

Looks like your profile is empty. Start filling it out using the interface on the left.

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**Personal information**

Jessica Doe 

Jessica Birthdate (DD/MM/YYYY) 


Gender  Nationality

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Hi! PARIS Org Team

Role / Title

**Technical competencies**




**Professional interests and soft skills**



**Save**

**Preview:**

Jessica 

Org Team

Hi! PARIS

**Technical competencies**

Edit your profile to add technical skills

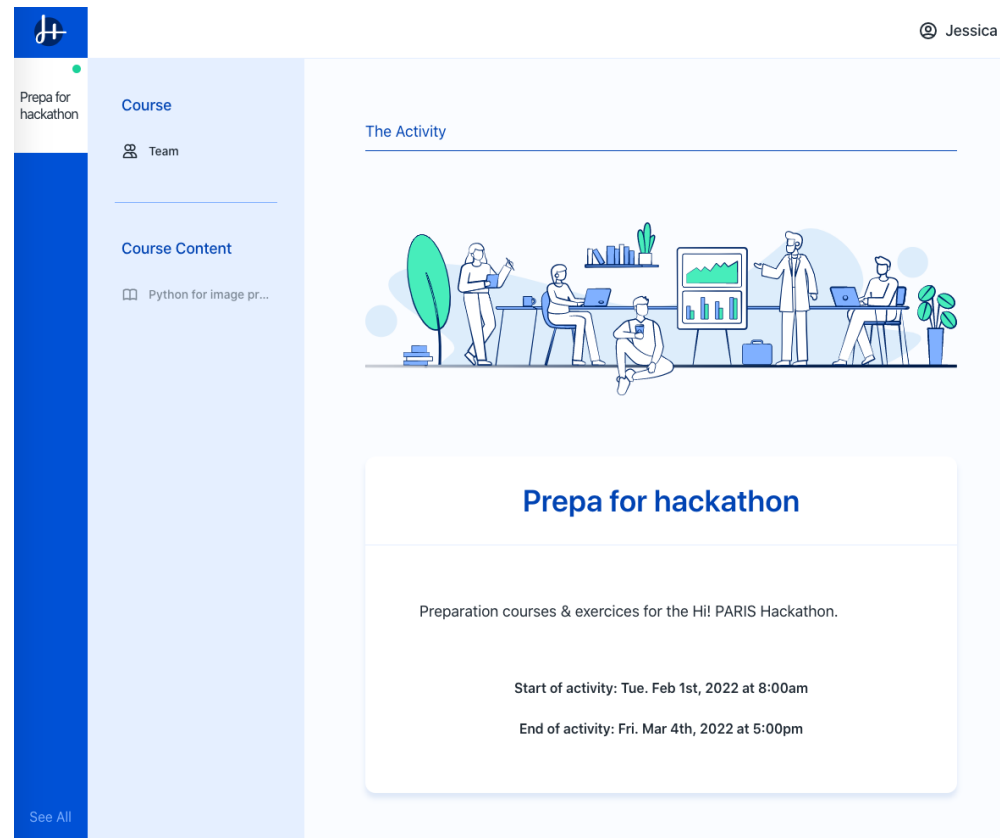
**Professional interests and soft skills**

Edit your profile to add your interests

- If you have skipped through your profile on first login, you can still adjust it later

The screenshot displays the HEC Paris digital tools interface. On the left, a blue sidebar contains the HEC Paris logo, a green status indicator, and navigation links: 'Prepa for hackathon', 'Course', 'Team', 'Course Content', and 'Python for image pr...'. The main content area is titled 'All Participants' and includes a search bar labeled 'Filter participants by email or name'. A user profile card at the bottom shows a profile picture, the name 'Jessica Doe (me)', and the text 'Hi! PARIS / Org Team' with a user icon. A dropdown menu is open in the top right corner, showing the user's email 'moral-wallaby-7627@onetimeuse mail.com' and options for 'Profile' and 'Sign Out'.

- Course content, with links to recordings and file downloads, will be visible as you progress in the courses



Prepa for hackathon

Course

Team

Course Content

Python for image pr...

The Activity

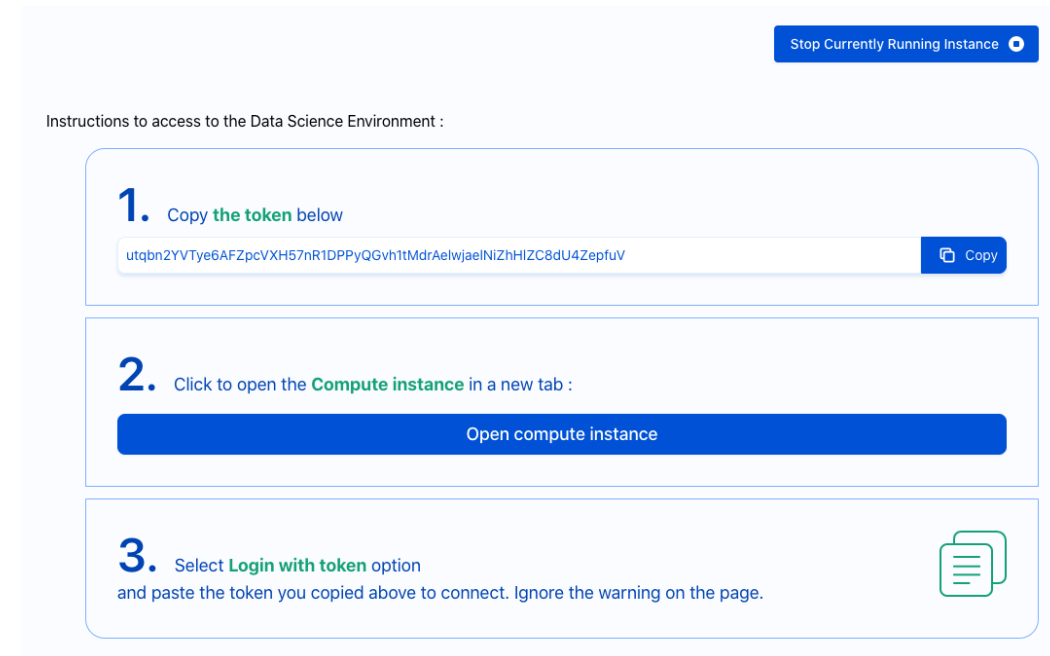
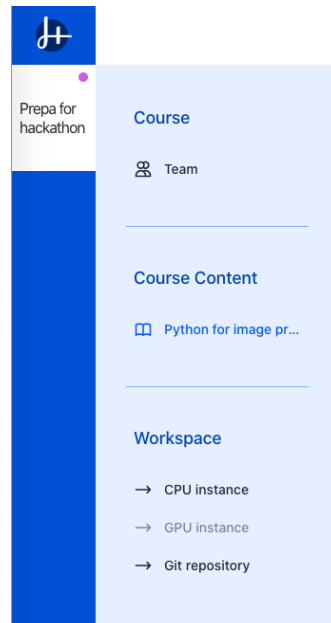
Prepa for hackathon

Preparation courses & exercices for the Hi! PARIS Hackathon.

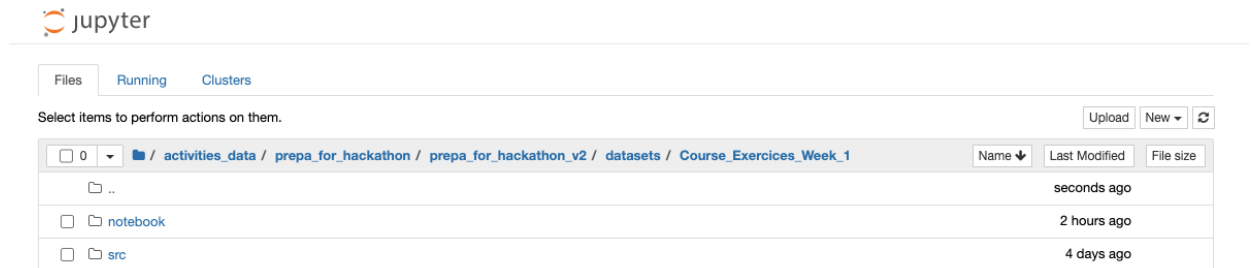
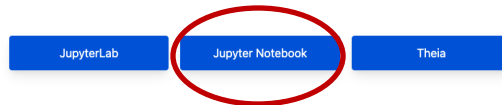
Start of activity: Tue. Feb 1st, 2022 at 8:00am

End of activity: Fri. Mar 4th, 2022 at 5:00pm

- Starting up a new instance (in other words provisioning and starting a computer in the Cloud) can take in excess of 10 seconds, be patient! Or refresh the page frenetically if it makes you feel better!
- Follow closely the instructions to log in to the instance (at this stage, you only have access to CPU instances)

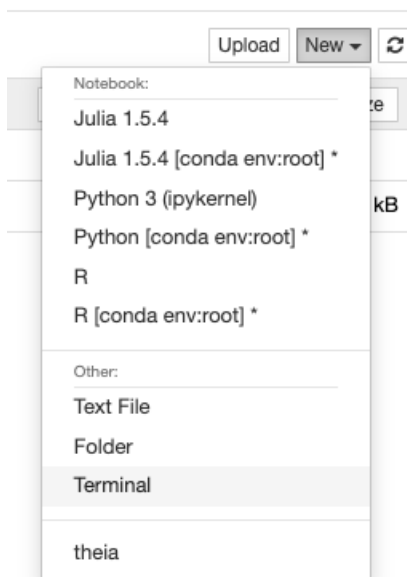


- During the preparation courses, we will use the classic Jupyter notebooks
- The notebooks, datasets for each course are under `activities_data / prepa_for_hackathon / prepa_for_hackathon_v2 / datasets`, with then one (sub)folder corresponding to each course





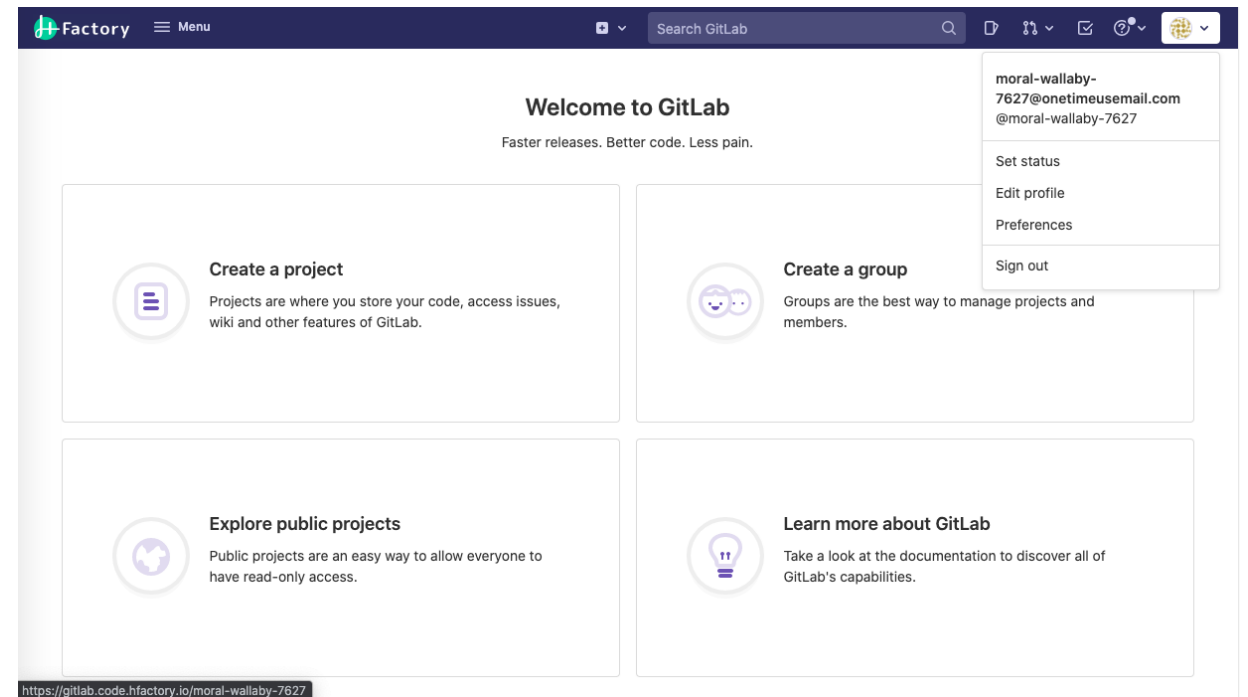
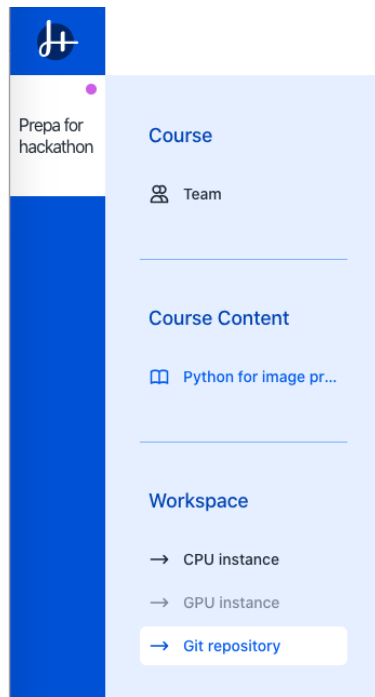
- Course content is in a read-only directory at `~/activities_data/prepa_for_hackathon/prepa_for_hackathon_v2/datasets`.
- Large datasets should be read directly from that mounted storage while the training notebooks should be copied onto your home directory.
- Copy the course content onto a dedicated folder in your HFactory home directory (with the classic Jupyter notebooks, this must be done from the terminal so we have added the commands to type in in the page for the first course on the HFactory webapp).



```
mkdir -p ~/my_work/
```

```
rsync -av --max-size=10M  
~/activities_data/prepa_for_hackathon/prepa_for_hackathon_v2/datasets/  
Course_Exercises_Week_1 ~/my_work/
```

- From the HFactory workspace, you have access to a GitLab managed git repository
- This will be used during the fifth course as well as during the hackathon itself (you will be expected to place your code and document your scientific approach on GitLab)



- You can contact the HFactory team on the dedicated Discord channel set up to that end
- Enjoy the courses prepared for you as part of this Hackathon!



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# ANY QUESTIONS ?

- You can contact the organizing team on Discord, through the Q&A of Zoom or send an e-mail to: [contact@hackathon-hi-paris.fr](mailto:contact@hackathon-hi-paris.fr)
- Find all events registration links on both Discord and the Hi!ckathon website: [hackathon-hi-paris.fr](https://hackathon-hi-paris.fr)