A European University Alliance

invest

The Competitive University for a Sustainable Society

Co-funded by the Erasmus+ Programme of the European Union

INVEST Winter School 2021

Use of Artificial Intelligence to support regional sustainable development

Course Duration

08-15/11/2021

With preliminary tasks 18/10 - 07/11

Course characteristics

Online (description)

Sync and async mode

Hackathon

Info

No fees

5 ECTS

Application

Please apply here by 15/10/2021

Use of Artificial Intelligence to support regional sustainable development is a joint winter school for BSc (with completed two years of studies), MSc and PhD students from all disciplines. The course is implemented as a hackathon with preliminary preparatory lectures/tasks before the actual hackathon. Students will work in multidisciplinary groups on a specified challenge on supporting regional sustainable development using AI. The course is **free** for the admitted students and will be conducted online. Students will:

- Get acquainted with AI concepts and tools
- Explore AI applications on several sectors of urban environment
- Find and propose AI assisted solutions for supporting regional sustainable development
- Learn innovation methods and tools
- Build and develop network of experts
- Develop multiprofessional working life skills
- Acquire 5 ECTS

your INVESTment in knowledge

Slovak University of Agriculture Nitra

ВУАРР Пловдив

University of Thessaly

Karelia University of Applied Sciences

van hall larenstein university of applied sciences

TAKE **ADVANTAGE** OF THIS **OPPORTUNITY** OPEN UP YOUR **FUTURE**

Artificial Intelligence is one the fastest growing industries. The global Artificial Intelligence market is projected to grow from $47.47 billion in 2021 to $360.36 billion in 2028 at a CAGR of 33.6% in forecast period. [source]

Contents

During the course, multidisciplinary student groups will work on a challenge posed by a Greek organization related to regional sustainable development. The groups will be introduced to different methods and tools for innovation, expert lectures in AI and its applications will be delivered, as well as in topics related to regional development, sustainability and their interaction with AI. The expert lectures will be given by stakeholders from each of the partner countries (Slovakia, Bulgaria, Greece, Finland and the Netherlands).

Learning objectives

After completing the course, you will be able to utilize multidisciplinary expert networks, creative thinking and AI based technologies for problem solving in the domain of sustainable regional development. You will have a basic knowledge of AI concepts and tools, their applicability in various urban domains/environments and get equipped with the skills to present your findings. You will understand the multidisciplinary nature of regional development and its significance for rural and urban communities as well the basic concepts of sustainability of communities.

The groups, working in close cooperation with different stakeholders, will propose solutions and actions to support regional sustainable development employing AI tools. Students will also learn about Greek folk culture and participate in an online folk dancing class and also plan and implement a joint cultural evening.

TAKE **ADVANTAGE** OF THIS **OPPORTUNITY** OPEN UP YOUR **FUTURE**

"Every aspect of learning or any other feature of intelligence can in principle be so precisely described that a machine can be made to simulate it."

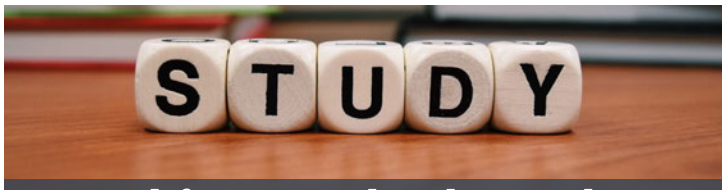
John McCarthy

Student selection

- BSc (you should have completed two years of studies), MSc or PhD student.
- Minimum requirements for English language level is B2

Each partner university will select 5 students. You should send your application to your respective coordinator by 15 October 2021. Your application should be in the form of a motivation letter or video, including your motivation for taking the course and how you plan to utilize the information you will gain from the course.

Please apply here by 15/10/2021



Teaching methods and student workload

The course will be implemented online and consists of three phases:

- Preliminary tasks (18 October – 7 November)

- 4 x 2h lectures in AI Basics (14h of workload)
- 2 x 2h lectures in AI and Sustainability (7h of workload)
- Presenting yourselves online, background research, designing the evening activity, starting the learning diary (32h workload)

- Hackathon process (8 – 15 November)

- Introduction to AI concepts and tools, expert lectures in hackathon related topics, group work, coaching, joint activities (67h workload)

- Final tasks (16 - 18 November)

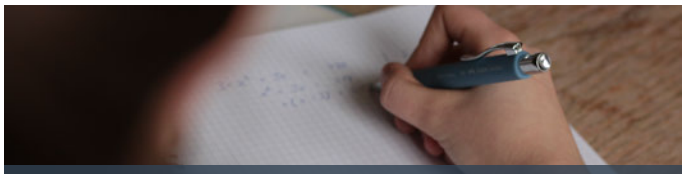
- Finalizing the learning diary/reports (17h workload)

Total estimated workload: 137 h

TAKE **ADVANTAGE** OF THIS **OPPORTUNITY** OPEN UP YOUR **FUTURE**

"Artificial intelligence is the science of making machines do things that would require intelligence if done by men."

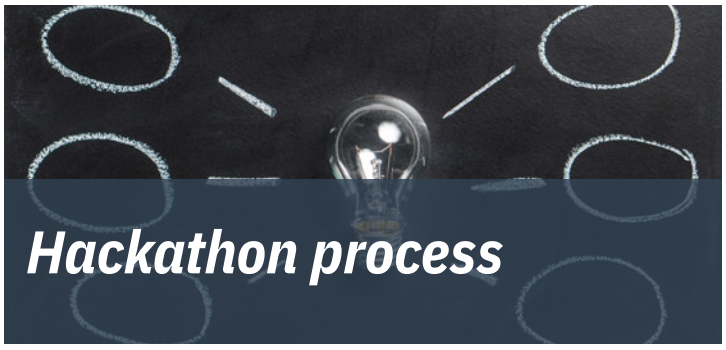
Marvin Minsky



Course evaluation

The evaluation of the course is based on the approved completion of the course assignments, expert evaluation of the presentation and report of the solution and participation in joint online meetings.

The solution will be evaluated as follows: innovativeness, potential for uptake, potential for further development and the novelty value of the idea.



Hackathon process

Phase #1

Gathering information

Phase #2

Brainstorming and developing the ideas

Phase #3

Developing and testing the ideas

Phase #4

Condensing the solution

Phase #5

Presenting the solution

INVEST Winter School 2021

Use of Artificial Intelligence to support regional sustainable development

Contact information

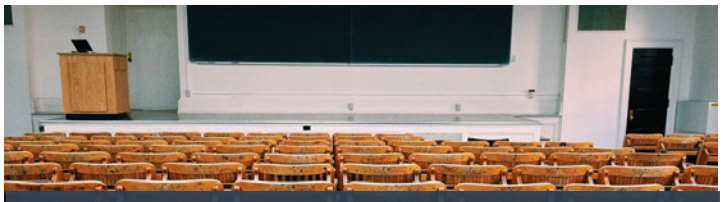
Slovak University of Agriculture in Nitra (SUA):
Monika Bumbalová,
monika.bumbalova@uniag.sk

University of Agribusiness and Rural Development (UARD):
Miglena Kazashka, mkazashka@uard.bg

University of Thessaly (UTH):
Vasilis Kyriatzis, kyriatzis@uth.gr

Karelia University of Applied Sciences (Karelia UAS):
Kaija Saramäki, kaija.saramaki@karelia.fi
Sini Rantanen, sini.rantanen@karelia.fi

Van Hall Larenstein University of Applied Sciences (VHL):
Jannet Lavalette, jannet.lavalette@hvhl.nl
Korrie Hoekstra, Korrie.hoekstra@hvhl.nl



Implementing Universities

University of Thessaly (Greece), **Slovak University of Agriculture in Nitra** (Slovakia), **University of Agribusiness and Rural Development** (Bulgaria), **Karelia University of Applied Sciences** (Finland), **Van Hall Larenstein University of Applied Sciences** (the Netherlands)

https://www.invest-alliance.eu/

A European University Alliance

invest

The Competitive University for a Sustainable Society

Co-funded by the Erasmus+ Programme of the European Union

Tentative schedule for INVEST Winter School 2021. Note that the times are in Central European Time. **Changes are possible**.

18/10-07/11/2021	Monday, 8 November 2021	Tuesday, 9 November 2021	Wednesday, 10 November 2021	Thursday, 11 November 2021	Friday, 12 November 2021	Saturday, 13 November 2021	Sunday, 14 November 2021	Monday, 15 November 2021	16-18/11/2021
Preliminary tasks	*Background*	*Brainstorming*	*Development*	*Development and Testing*	*Development and Testing*	*Testing*	*Summarizing*	*Final*	*Post summer school tasks*
1. 4 x 2h lectures in AI Basics AND 2 x 2h lectures in AI and Sustainability 2. Introduction task (introduce yourself to the others) 3. Group task: Short presentation from your own country on the topic 4. Group task: Planning a joint "Getting to know each other" -event for the first evening of the summer school	10:00-10:30 Welcoming words	9:00-10:30 Expert Lecture	9:00-10:30 Expert Lecture	9:00-10:30 Expert Lecture	10:00-11:00 Expert Lecture	10:00-11:00 Expert Lecture	10:00-12:30 Working in groups: summarizing the idea and concept, preparing for pit ching	9:00-12:30 Finalising the pitches and returning them by 12:30	1. Returning final reports 2. Returning a reflection task related to your own learning
	10.30-11.00 KEY NOTE SPEAKER **Prof. Artemis G. Hatzigeorgiou**								
		Break	Break	Break	Break	Break			
	11.00-11.30 Stakeholder/Hackathon theme related lecture	10:45-11:45 Group formation	10:15 -12:30 Working in groups: developing and testing ideas	10:15-12:30 Working in groups: developing and testing of ideas	10:15-12:30 Working in groups: developing and testing of ideas	11:15-12:30 Working in groups: developing and testing the ideas			
	11:30-12:30 Lunch break	Lunch break	Lunch break	Lunch break	Lunch break	Lunch break	Lunch break	Lunch break	
	12.30-13.30 Stakeholder/Hackathon theme related lecture	12:45 - 15:00 Working in groups: developing ideas	13:30-14:30 Expert Lecture	13:30-14:30 Expert Lecture	13:30-14:30 Expert Lecture	13:30-14:30 Expert Lecture	13:30-14:00 Working in groups: summarizing the idea and concept, preparing for pit ching	13:30-15:30 Pitching	
	Break		Break	Break	Break	Break		Break	
	13.30-14.30 Stakeholder/Hackathon theme related lecture		14:30 -16:00 Working in groups: developing and testing ideas	14:30-16:00 Working in groups: developing and testing of ideas	14:30-16:00 Working in groups: developing and testing of ideas	14:30-16:00 Working in groups: developing and testing of ideas		16:00-16:45 Grand ceremony	
	14.45-16.30 **Poster presentations by students**	Facilitation and sparring available 12:45-15:00	Facilitation and sparring available 14:30-15:00	Facilitation and sparring available 14:30-15:00	Facilitation and sparring available 14:30-15:00	Facilitation and sparring available 14:30-15:00	Facilitation and sparring available 11:00-14:00		
	17.00-19.00 Joint cultural evening			Evening:Online greek folk dancing					

Slovak University of Agriculture Nitra

ВУАРР Пловдив

University of Thessaly

Karelia University of Applied Sciences

van hall larenstein university of applied sciences

https://www.invest-alliance.eu/