

RUN-EU RESEARCH CHALLENGE SAP ARTIFICIAL INTELLIGENCE 2AI 2nd EDITION

15-19.JULY.2024

SAP OVERVIEW

This SAP Research Challenge aims to promote the development of in-person R&D activities focused on the field of Artificial Intelligence (AI). The SAP programme is divided into two components: training and group research. The training component will be based on short thematic workshops taught by experts. These workshops will focus on emerging AI-related topics (including, Deep Learning, Tiny AI, Blockchain, Collaborative Robots, Simulation and Additive Manufacturing) and training in basic research components (namely, Research Methodologies, Data Analysis, Scientific Writing, Preparation of Scientific Pitches, and Funding Opportunities).

Concerning the research component (designated as Hands-On), young researchers will be incorporated into projects currently being executed at IPCA R&D units and challenged to carry out a short-term R&D project oriented towards the project's goals.

LEARNING OUTCOMES

At the end of this RUN-EU SAP, you will be able to:

- Understand the basics of research methodologies
- Receive advanced training in emergent technologies
- Improve transversal and soft skills through teamwork and cooperative project methodology
- Improve innovative thinking in cooperation with others to achieve a common goal
- Experience a multicultural international environment

+INFO: www.run-eu.eu

Organised by: Polytechnic University of Cávado and Ave
Technological University of the Shannon

DATE From **15 to 19 July 2024**

Face-to-Face Week: IPCA, Barcelos, Portugal 15-19 July

MODE OF DELIVERY In Person

LANGUAGE OF INSTRUCTION English

ECTS CREDITS 1

ACADEMIC RECOGNITION

To be defined by each Home Institution

ELIGIBLE PARTICIPANTS

Students from technology fields, including engineering and sciences. No pre-skills are required, and the programme is suitable also for any other student programme.

HOW TO APPLY

Fill in the application form (**QR or website**)



DEADLINE FOR APPLICATIONS

16 June 2024

CONTACT DETAILS

jvilaca@ipca.pt
pmorais@ipca.pt

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SELECTION CRITERIA

Priority will be given to students who are developing research at a master's or PhD level and to students involved in the IPCA Summer Schools.
A maximum of 35 students will be selected for this programme.

LEARNING AND TEACHING STRATEGY

The teaching strategy is based on project work, problem-based learning and have an exploratory approach. Each student will select a research theme from a set of pre-defined topics and each student will receive mentoring from senior research. The students work in multi-cultural international groups.

PREREQUISITES

No pre-requisites

COURSES LEADERS | LECTURERS

Courses leaders

João Vilaça (2Ai-IPCA)
Pedro Morais (2Ai-IPCA)
Shioban Moane (TUS)
Patrick Murray (TUS)

Lecturers and Coaches

António Moreira (2Ai-IPCA)
Cátia Alves (2Ai-IPCA)
Daniel Miranda (2Ai-IPCA)
Duarte Duque (2Ai-IPCA)
Estela Vilhena (2Ai-IPCA)

Lecturers and Coaches

Fernando Veloso (2Ai-IPCA)
Helena Torres (2Ai-IPCA)
João Silva (2Ai-IPCA)
Joaquim Gonçalves (2Ai-IPCA)
José Henrique Brito (2Ai-IPCA)
Luís Ferreira (2Ai-IPCA)
Maria Manuela Cunha (2Ai-IPCA)
Nuno Lopes (2Ai-IPCA)
Sérgio Pereira (2Ai-IPCA)
Ricardo Simões (2Ai-IPCA)
Vitor Carvalho (2Ai-IPCA)

PHYSICAL MOBILITY | SCHOLARSHIPS AVAILABLE

To be managed by Home Institution.

Flows/Institution. Applicant selection aims for wide representation of partner institutions implying a maximum of 5 students per university.

Final decision on the scholarships to be awarded falls under the responsibility of the Home Institution RUN-EU Project Leader and compulsorily requires IRO involvement.

MEANS AND CRITERIA FOR ASSESSMENT

All students will be organised in groups. Each group will realise a final presentation/demonstration of the developed work.

CERTIFICATION

The participants who successfully complete this RUN-EU SAP will receive a Certificate of Participation and a Transcript of Records jointly issued by the organising institutions.

SHORT
ADVANCED
PROGRAMME

RUN REGIONAL
UNIVERSITY
NETWORK
EUROPEAN UNIVERSITY

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PROGRAMME AT A GLANCE

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	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00	19h00	20h00
GMT+2											
GMT+1											
GMT											
MONDAY 15/07			WELCOME	SAP RESEARCH CHALLENGE VISIT TO R&D UNITS	ICE BREAKING ACTIVITY + CULTURAL ACTIVITY (NATIONAL PARK GERÊS)						
TUESDAY 16/07			RESEARCH METHODOLOGIES	SCIENTIFIC WRITING	LUNCH BREAK	WORKING GROUP					
WEDNESDAY 17/07			DATA ANALYSIS		INTRO TO RESEARCH	LUNCH BREAK	WORKSHOP 1	WORKING GROUP			
THURSDAY 18/07			PICTH GUIDLINES	FUNDING OPPORTUNITIES	WORKSHOP 2	LUNCH BREAK	WORKSHOP 3				
FRIDAY 19/07			WORKSHOP 4	RUN-EU RESEARCH SYMPOSIUM			FINAL PRESENTATION				



Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them. Grant Agreement Number: 101124674.

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15 JULY		MONDAY 9H00-18H00 GMT											
GMT+2	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00	19h00	20h00		
GMT+1	9h00	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00	19h00		
GMT	8h00	9h00	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00		
MONDAY 15/07			WELCOME	SAP RESEARCH CHALLENGE VISIT TO R&D UNITS	ICE BREAKING ACTIVITY + CULTURAL ACTIVITY (NATIONAL PARK GERÊS)								

Welcome

🕒 9h00-10h00

**SAP Research
Challenge**

🕒 10h00-11h00

Visit to R&D Units

🕒 11h00-12h00

📄 Guided tour to IPCA's research units - 2Ai, ID+ and CICF.

Ice Breaking Activity

🕒 12h00-18h00

📄 Picnic - Gerês

16 JULY		TUESDAY 9H00-17H00 GMT										
GMT+2	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00	19h00	20h00	
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GMT	8h00	9h00	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00	
TUESDAY 16/07			RESEARCH METHODOLOGIES	SCIENTIFIC WRITING	LUNCH BREAK	WORKING GROUP						

Research Methodologies

🕒 9h00-11h00

👤 Vitor Carvalho (IPCA)

📄 The workshop aims to assimilate the processes, methodologies, and practices associated with scientific research, as well as to develop a critical scientific spirit and the ability to produce a scientific text and work plan.

Scientific Writing

🕒 11h00-13h00

👤 Pedro Morais (IPCA)

📄 This training programme focuses on training the participants with good practices for structuring, formatting, using appropriate language, and including relevant information in scientific writing.

Working Group

🕒 14h00-17h00

📄 The participants will be grouped and assigned a particular issue outlined at the start of the SAP.

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17 JULY

WEDNESDAY 9H00-17H00 GMT

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GMT	8h00	9h00	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00
WEDNESDAY 17/07			DATA ANALYSIS	INTRO TO RESEARCH	LUNCH BREAK	WORKSHOP 1	WORKING GROUP				

Data Analysis

🕒 9h00-12h00

👤 Estela Vilhena (IPCA)

📄 The Data Analysis course will provide students with an in-depth overview of data analysis methods applied in a generic context as well as a solid understanding of their advantages and limitations.

Workshop 1 | Option 2

Deep Learning

🕒 14h00-15h30

👤 Helena Torres (IPCA)

📄 This session presents an overview of Artificial Intelligence applied to health applications. Typical application examples of medical image techniques applied to different fields will be presented.

Introduction to Research Integrity and Intellectual Policy

🕒 12h00-13h00

👤 Siobhan Moane and Patrick Murray (TUS)



The seminar on research integrity will provide an introduction to the European code of practice and the basic principles which together with good research practices are essential for promoting and safeguarding a culture of research integrity. The seminar will also contain an interactive dilemma game as an exercise for exchanging experiences, opinions, perspectives of research and research integrity.

Working Group

🕒 15h30-17h00

📄 The participants will be grouped and assigned a particular issue outlined at the start of the SAP.

Workshop 1 | Option 1

Introduction to TinyML: Bringing Machine Learning to Edge Devices

🕒 14h00-15h30

👤 António Moreira (IPCA)

📄 This workshop aims to provide participants with a comprehensive understanding of the emerging field of TinyML, which brings the power of machine learning to resource-constrained edge devices.

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18 JULY

THURSDAY 9H00-15H30 GMT

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GMT	8h00	9h00	10h00	11h00	12h00	13h00	14h00	15h00	16h00	17h00	18h00
THURSDAY 18/07			PICTH GUIDELINES	FUNDING OPPORTUNITIES	WORKSHOP 2	LUNCH BREAK	WORKSHOP 3				

Scientific Pitch Guidelines

🕒 9h00-10h00

👤 Pedro Morais (IPCA)

📄 This training programme focuses on training the participants with good practices for structuring, formatting, using appropriate language, and including relevant information in scientific writing.

Funding Opportunities

🕒 10h00-11h00

👤 Pedro Morais (IPCA)

📄 In this session, the candidate will be introduced to scientific opportunities platforms (namely the Euraxess portal) and relevant guidelines for an application.

Workshop 2

Collaborative Robotics

🕒 11h00-13h00

👤 João Vilaça and Sérgio Pereira (IPCA)

📄 In this workshop, the candidates will participate in a practical course to manipulate a KUKA IIWA robot.

Workshop 3

Blockchain and Traceability

🕒 14h00-15h30

👤 Luís Ferreira (IPCA)

📄 The digitalisation of data and services is one of the great opportunities for development today. More and more information and knowledge is extracted from existing data or derived from the participation of advanced processing and analysis systems.

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FRIDAY 9H00-15H30 GMT

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FRIDAY 19/07			WORKSHOP 4	RUN-EU RESEARCH SYMPOSIUM			FINAL PRESENTATION				

Workshop 4 | Option 1

Additive Manufacturing

🕒 9h00-11h00
👤 Fernando Veloso (IPCA)

📄 Additive Manufacturing is one of the key Technologies of this century, with large impact in different applications. This technology enables the production of complex and customised designs by depositing materials layer by layer, offering many advantages to traditional manufacturing processes.

Workshop 4 | Option 2

Simulation

🕒 9h00-11h00
👤 Daniel Miranda (IPCA)

📄 Computer simulation is a versatile tool widely used in research fields, particularly in engineering and natural sciences, playing a crucial role in scientific and technological advancements by providing valuable insights into the understanding and improvement of real systems under study.

RUN-EU Research Symposium

🕒 11h00-14h00

Final Presentation

🕒 14h00-15h30