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DeCAIR

DeCAIR NEWSLETTER

Third Issue – June 1st, 2023

Developing Curricula for Artificial Intelligence and Robotics

2021- 2024

Project Facts

Type: Erasmus+ Programme
Grant Holder: The University of Jordan (UJ)
Duration: Three Years
Start Date: 15th January 2021
UNDER "ERASMUS+ CAPACITY BUILDING IN THE FIELD OF HIGHER EDUCATION"

Project Profile

DeCAIR is a three-years project that started on the 15th of January 2021 and is co-funded by the Erasmus+ programme of the European Union. It is coordinated by The University of Jordan (UJ) with 10 Jordanian, Lebanese, and European partners. The DeCAIR project aims to develop a new MSc program in artificial intelligence and robotics (AIR) at the University of Jordan, a new BSc program in Intelligent Systems Engineering at Tafila Technical University (TTU) and introduce and upgrade AIR courses in the current BSc and MSc programs at the partner Jordanian and Lebanese universities.

The project builds capacities in AIR through transfer of European expertise, academia and industry networking, development of new laboratories in AIR, and strengthening cooperation with local, regional, and European companies to apply AIR technologies.

CONTACT INFORMATION

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Aims and Specific Objectives of the Project

Recently, artificial intelligence and robotics (AIR) have been making huge advances enabling them to enter new applications, constituting disruptive forces to various aspects of our lives. Developing countries such as Jordan and Lebanon suffer from slowing economies and high unemployment rates. These problems will worsen as AIR technologies succeed in automating more jobs and shifting production and jobs to the countries that employ these technologies to efficiently offer better services and products. Therefore, it is essential for all countries to engage in using and developing these technologies to create new businesses, improve existing products and services, and foster human prosperity. The consortium of this proposal is taking the initiative of "*Developing Curricula for Artificial Intelligence and Robotics (DeCAIR)";* a project that intends to develop curricula in the areas of AIR through new master's and bachelor programs. These programs will give students opportunities to specialize in AI technologies, Robotics technologies, or using AI solutions to develop smart and autonomous robots that can solve unconventional problems. Additionally, DeCAIR will improve the curricula of existing masters and bachelor programs in the areas of AIR, establish relevant modern laboratories, and implement modern teaching methods such as flipped learning and project-based learning. All this will improve the graduates' practical skills and enable them to exploit these revolutionary technologies to solve local and regional problems, create new jobs, and to start new ventures. Other project aims are to improve the teaching capacity at universities of the partner countries, build a network of highly qualified professionals in these areas among partner universities, and improve collaboration with local and regional industries and community for applying AIR technologies in solving industry and community problems.

Partners

P1		**The University of Jordan (UJ), Jordan (Project General Coordinator)** Contact Person: Prof. Gheith Abandah
P6		**Università di Pisa (UNIPI), Italy** Contact Person: Dr. Lucia Pallottino
P2		**Jordan University of Science and Technology (JUST), Jordan** Contact Person: Prof. Wafa Batayneh
P7		**Universita' degli Studi di Genova (UNIGE), Italy** Contact Person: Prof. Francesco Masulli
P3		**Tafila Technical University (TTU), Jordan** Contact Person: Dr. Murad Alaqtash
P8		**Universidad de Granada (UGR), Spain** Contact Person: Prof. Jorge Casillas
P4		**Lebanese University (LU), Lebanon** Contact Person: Prof. Clovis Francis
P9		**University of Stuttgart (UST), Germany** Contact Person: Dr. Peter Eberhard
P5		**Beirut Arab University (BAU), Lebanon** Contact Person: Prof. Soubhi Abou-Chahine
P10		**Creative Thinking Development (CRE.THI.DEV), Greece** Contact Person: Dimos Papakonstantinou

DeCAIR Steering Committee Meetings

As part of WP13, the steering committee meets almost monthly or bimonthly. Since the project start, there has been 18 steering committee meetings. The majority of which were held online at the beginning of the project, and after COVID19 travel restrictions were lifted, most recent meetings were held in hybrid mode (in-person and online). The following are some highlights of these recent meetings.

Fourteenth Meeting (September 21st, 2022)

On Wednesday 21/9/2022, the 14th DeCAIR Steering Committee Meeting was held in person at the University of Stuttgart / Germany during the DeCAIR Team visit. It was also held virtually via Zoom. The meeting focus was preparation for the Erasmus+ DeCAIR Project Auditing and Evaluation
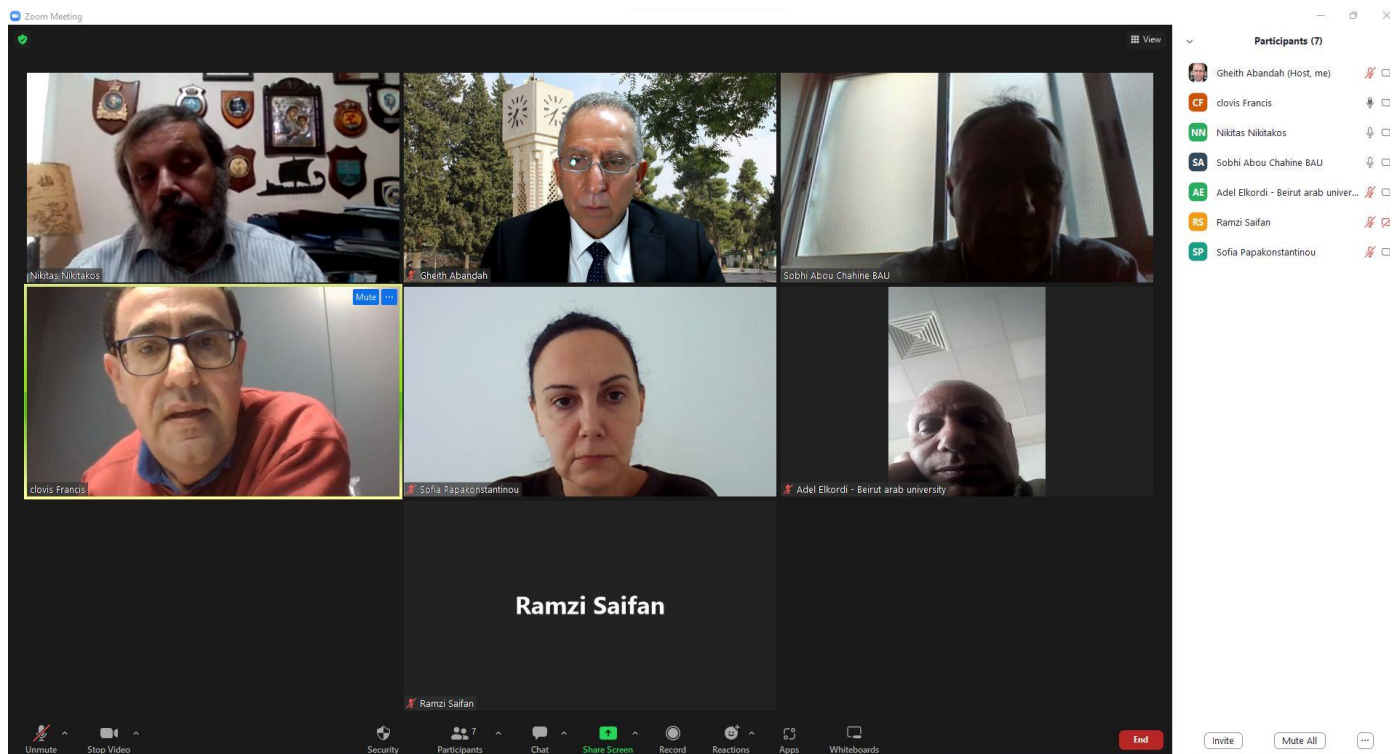
The following topics were discussed during this meeting:
- Status Review and Reporting for the following work packages:
  * WP1: Surveys and Needs Identification
  * WP2: Development of New M.Sc. and B.Sc. Programs in AI and robotics
  * WP3: Implementing the new MSc program in UJ which was recently approved, accredited, and set to start in Fall 2022.
  * WP4: Implementing the new BSc program in TTU
  * WP5: Improving curricula of current MSc programs in JO and LB
  * WP6: Improving curricula of current BSc programs in JO and LB
  * WP7: Building capacity in AIR in universities of Partner Countries
  * WP8: Establishing and developing AIR labs
  * WP9: - Implementing modern teaching methods in the M.Sc.   programs
  * WP10: Quality Assurance
  * WP11: Collaborating with industry and community
  * WP12: Results dissemination
  * WP13: Project Management
- Scheduling the next SC meeting in Amman, Jordan.

DeCAIR Quality Committee Meeting

On Wednesday 26/10/2022, the DeCAIR Quality Committee conducted a meeting with the external evaluator, Dr. Nikitas Nikitakos. During this meeting, Dr. Nikitakos briefed the committee about this review progress, commended the progress in the project, and suggested ways to improve the project's impact and sustainability. The committee answered some questions related to the project's plans and progress.

Fifteenth Meeting (November 22nd, 2022)

On Tuesday 22/11/2022, the 15h DeCAIR Steering Committee Meeting was held through Zoom platform. The following topics were discussed during this meeting:

* Status review and planning for the following three work packages:
    - WP9: Implementing modern teaching methods – included update about Amman workshop and planning for Lebanon workshop.
    - WP7: Building capacity in AIR in universities of Partner Countries – included planning capacity building workshops in Jordan and Lebanon and planning two-week training courses for top students in European partner countries.
    - WP8: Establishing and developing AIR labs
* Listing the developed courses that are offered in Fall 2022, and planning for their evaluation
* Scheduling the next Steering Committee meeting to be held in Beirut in January 2023.
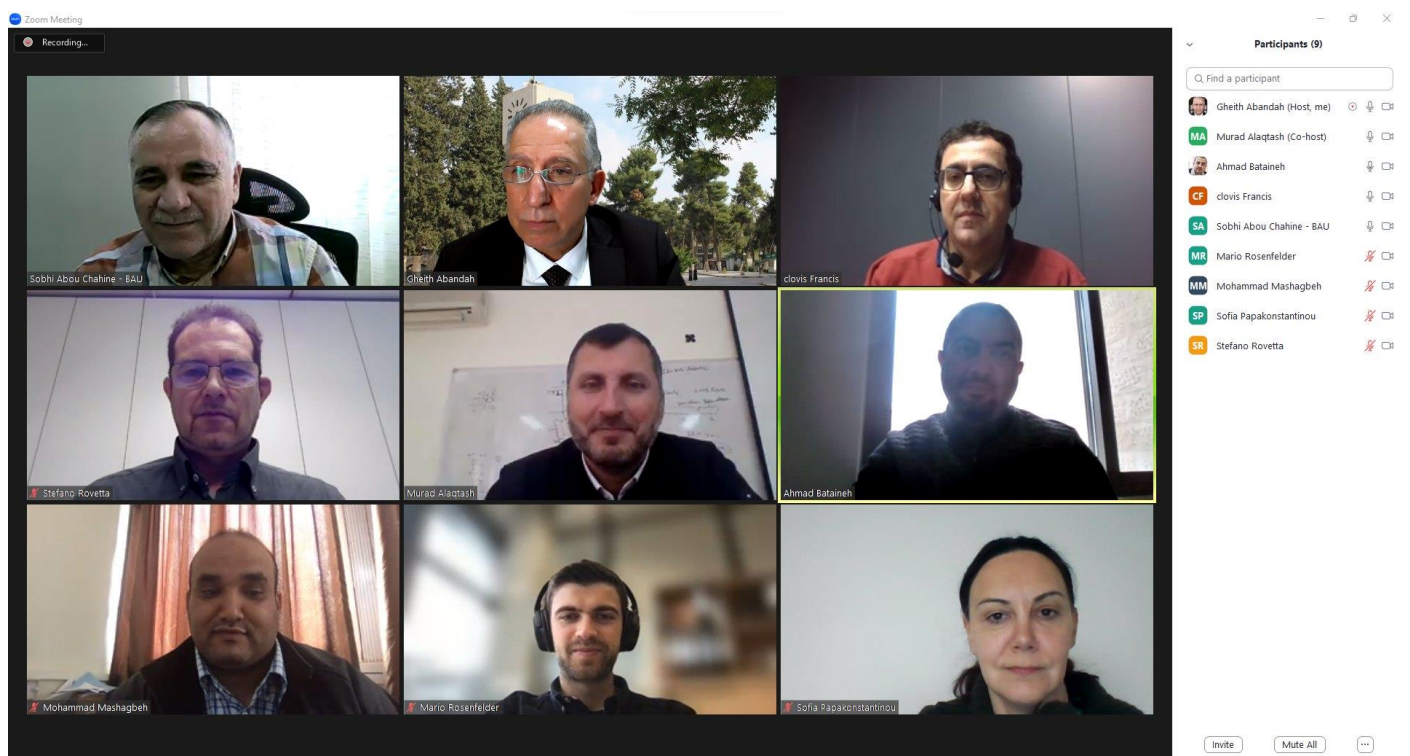
Sixteenth Meeting (January 12th, 2023)

Thursday 12/1/2023, the 16th DeCAIR Steering Committee Meeting was held in Beirut Arab University and through Zoom platform. The following topics were discussed during this meeting:

* Update about the final list of developed courses – Presented by Gheith
* Reviewing the status of reports required for the developed courses offered in Fall 2022
* Status review and planning for the following work packages:
    - WP7: Building capacity in AIR in universities of Partner Countries
        - Planning capacity building workshops in JO and LB,
        - Planning two-week training courses for top students in IT, ES, DE, and GR
    - WP8: Establishing and developing AIR labs
        - The need to develop lab manuals

- WP9: Implementing modern teaching methods
    - Update about Beirut workshop
  - Identifying two pilot MSc courses in JO and LB
  - WP12: Results Dissemination – Presented by Gheith
    - Student handbooks for MSc in AIR and BSc in ISE
    - Results Dissemination Final Workshops in JO and LB
* Scheduling the next SC meeting

Seventeenth Meeting (March 14th, 2023)

On Tuesday 14/3/2023, the 17th DeCAIR Steering Committee Meeting was held in the Computer Engineering Department of the University of Jordan and through Zoom platform. The following topics were discussed during this meeting:

* Discussing plans for next SC meeting in Athens including the technical visit (May 2023)
* Discussing plans for the Advance Robotic Control course in Pisa and SC meeting in Pisa (June 2023)
* Report about the last two training courses
* Results of student evaluations of DeCAIR courses offered in Fall 2022
* Required reporting of DeCAIR courses offered in Fall 2022 and Spring 2023
* Update on Equipment Purchase in Jordan

Eighteenth Meeting (May 25th, 2023)

Thursday 25/5/2023, the 18th DeCAIR Steering Committee Meeting was held in Athens, Greece and also through Zoom platform. The following topics were discussed during this meeting:
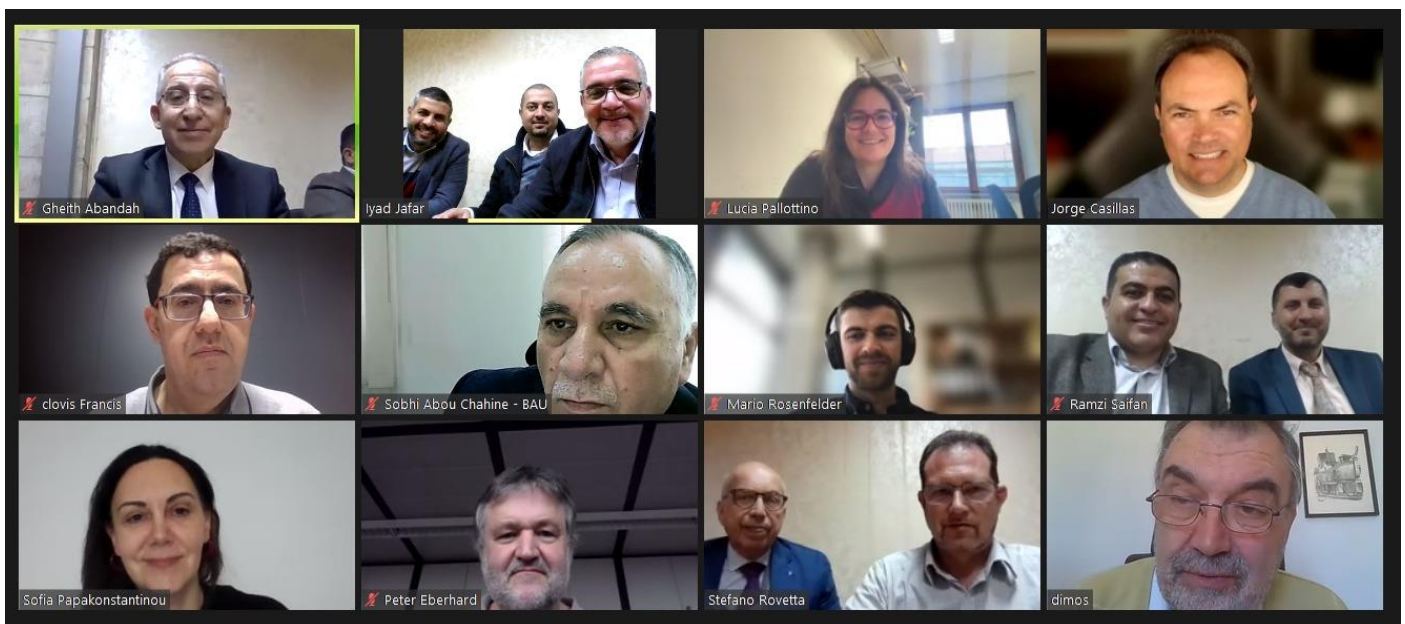* General Project Review
* Discussing plans for the Advance Robotic Control course in Pisa and the SC meeting in Pisa (June 2023)
* Discussing internship opportunities in Genoa
* Status of required reporting for DeCAIR courses offered in Spring 2023
* Staff cost for Jordanian and Lebanese partners
* Grant budget and expenditure status (discussing unspent shares)

DeCAIR Activity Highlights

Official Launching of the MSc of AI and Robotics at the University of Jordan

Thursday, September 8th, 2022, the University of Jordan launched in a special ceremony under the patronage of his excellency the President of the University, Prof. Nathir Obeidat, the master's program in Artificial Intelligence and Robotics. The new MSc program is a joint program between the departments of Computer Engineering and Mechatronics Engineering at the University's School of Engineering.

The program, which was established within the project to develop curricula for artificial intelligence and robotics (DeCAIR), is supported by the European Commission within the Erasmus Plus program. The new program aims to provide the Jordanian labor market and the regional market with specialized cadres in the field of artificial intelligence and robotics, in light of the increasing use of smart technology in all fields globally.

In his speech during the ceremony, Obeidat praised the introduction of this qualitative program within the programs of the School of Engineering at the university and indicated that in the midst of the university's celebration of its 60th anniversary, the launch of this program gives us confidence that the university is on the right path towards the future and keeps pace with the important developments and transformations in the sector of technical education.

He added that the program aims to meet the needs of the local and regional labor market by providing students with the necessary knowledge and skills in the fields of artificial intelligence and robotics that serve many other sectors, calling on the Schools of Engineering and King Abdullah School for Information Technology to unify and combine their efforts and expertise to ensure the program success and achievement of its goals.

The Dean of the School of Engineering, Prof. Nasser Al-Hunaiti, said that the program was approved by the Ministry of Higher Education as well as the Higher Education Accreditation and Quality Assurance Commission. It is the eighteenth program of the master's programs offered by the School of Engineering within its goals to keep pace with the latest technology, and engineering developments.

Hunaiti added that the program was developed in partnership with the Jordan University of Science and Technology, Tafila Technical University, the Lebanese University, the Beirut Arab University, the Italian Universities of Genoa and Pisa, the Spanish University of Granada, the University of Stuttgart, Germany and the Greek Foundation for the Development of Creative Thinking. The program provides modern applied curricula, specialized laboratories, and training opportunities in partner countries.

The project coordinator at the university, Prof. Gheith Abandah, said that the (DeCAIR) project came in response to the Fourth Industrial Revolution and the emergence of artificial intelligence and robotics technologies. The DeCAIR project aims to qualify experts in artificial intelligence and robotics through a master's program in artificial intelligence and robotics at the University of Jordan and a new bachelor's program in Engineering Intelligent systems at Tafileh Technical University (TTU), in addition to the

development of courses in artificial intelligence and robotics for six bachelor's programs and five master's programs in Jordanian and Lebanese partner universities.

He added that the project included the participation of European experts in developing plans and curricula for artificial intelligence and robotics, providing 19 specialized training courses for faculty members and students, and establishing specialized laboratories for artificial intelligence and robotics.

Professor of Computer Engineering at the university, Prof. Iyad Jafar, indicated that the program, which will accept the first batch of students in the first semester of the 2022/2023 School year and consists of 33 hours. The program is of an applied nature that seeks to qualify and graduate experts capable of employing modern technologies in this field to provide solutions that benefit all areas of life, and mainly targets bachelor students in the disciplines of electrical engineering, computer engineering, mechatronics engineering, electrical engineering, communications engineering, and medical engineering. The program also accepts undergraduate students from other engineering majors, artificial intelligence, Department and information technology.

Dr. Musa Al-Yaman of the Mechatronics Engineering Department at the University of Jordan reviewed the history of the Computer Engineering and Mechatronics departments and presented the new courses offered, as well as the courses updated at the BSc and MSc levels.

It is worth noting that that 15 students were admitted into the newly established program in its first year.

Practical Training Course on Control Systems and Robotics and Knowledge Transfer on Practical Teaching Methods

September 21st – 23rd, 2022 – University of Stuttgart / Germany: The Institute for Technical and Computational Mechanics (ITM) at the University of Stuttgart organized a practical training course for the DeCAIR team visiting from Jordan and Lebanon at the premises and labs of the ITM institute. The participants were professors from the University of Jordan (UJ), Jordan University of Science and Technology (JUST), Tafila Technical University (TTU), and Beirut Arab University (BAU).

On the first day of the visit, Prof. Dr. Ing. Michael Hanss gave an overview of the institute, its structure, organization, people, research, and funding. Mr. Mario Rosenfelder gave an interesting talk about mobile robotics at the ITM and ITM contribution to teaching. This was followed by an overview of the practical training on applied dynamics at ITM. Dr. Ing. Pascal Ziegler gave a short lab safety briefing.

The training comprised of four experiments with focus given on teaching methods, assessment, and experiment development. They were given by specialized research staff in their field and were related to mobile robotics, railway locomotive distance control, ball on a rim, and the pendulum experiment.
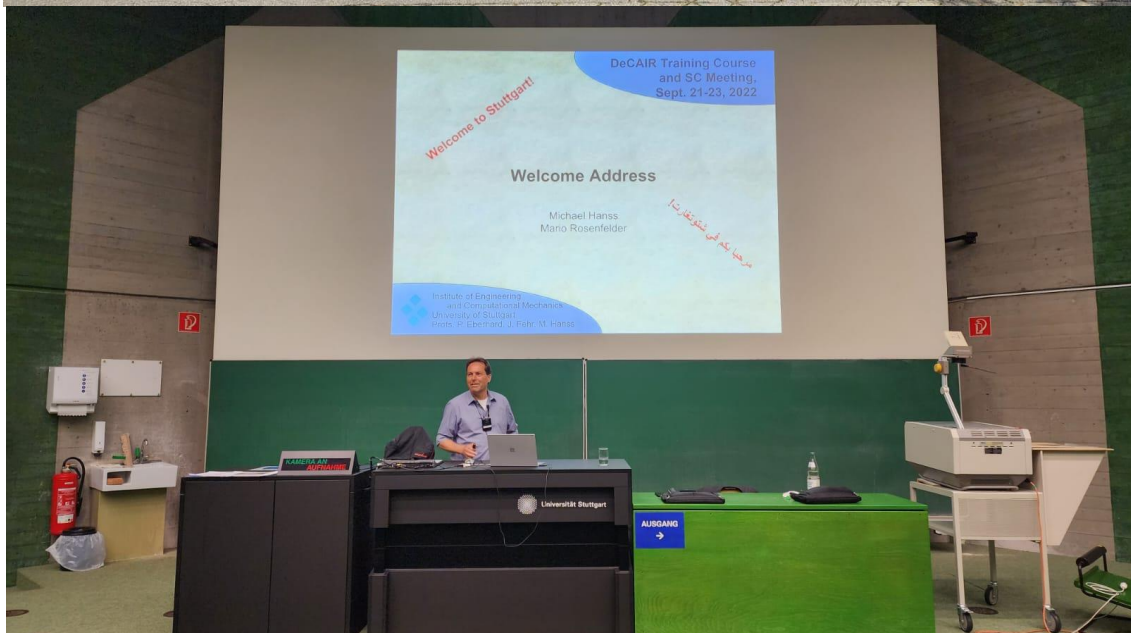
Social activities during the DeCAIR team visit to the University of Stuttgart

September 23rd, 2022 - The Institute for Technical and Computational Mechanics (ITM) at the University of Stuttgart hosted the DeCAIR Team for a social dinner in the historic downtown Stuttgart area where the DeCAIR team members met their peers and workshop instructors. During this social event, attendees got to know more about the research they conduct and exchanged info about Europe, Italy, Germany, Jordan, Lebanon, and the similarities and differences between their cultures, customs, and history.

Also, Mr. Mario Rosenfelder organized a one-day visit to the Mercedes-Benz museum for the DeCAIR team where they got to know the progress in automotive engineering from the first cars and locomotives to the state-of-the-art hybrid and electric cars and engines of the future.

DeCAIR Participates in the Launching Ceremony of the Second Arab AI Olympiad

Saturday 8/10/2022: The DeCAIR Project participated in the launching ceremony of the Second Arab AI Olympiad. The Arab Society for Robotics and Artificial Intelligence and STEAM Center held the launching ceremony of the second Arab Olympiad for Artificial Intelligence on Saturday 8/10/2022 at the Kempinski Hotel Amman, in the presence of the Secretary-General of the Association of Arab Universities and a group of doctors and specialists in this field. Professor Gheith Abandah gave a presentation about the DeCAIR project that briefed the participants about the project's objectives, consortium, methodology, and main results.

The second edition of the Arab Olympiad for Artificial Intelligence will be held at the level of the Arab world. The Olympiad is a set of competitions that represent a platform for Arab youth of all age groups in the field of artificial intelligence and cybersecurity. It includes designing and presenting presentations to activate teamwork and deepen the concept of teamwork and the acceptance of others.

Jordan University of Science and Technology DeCAIR Seminar

Thursday, October 27, 2022 - The Jordan University of Science and Technology (JUST), represented by the Faculties of Engineering and Computer and Information Technology, organized a seminar on the DeCAIR project and the importance of AI technologies in the presence of a number of faculty members and university students.

The seminar addressed a number of themes, most notably: clarifying the concept of artificial intelligence and its importance in various fields, current and future developments in the field of artificial intelligence technologies and their applications, in addition to patterns of artificial intelligence, the importance of robotics in the fields of science and technology, the relationship of artificial intelligence to digital transformation, as well as current and future trends in artificial intelligence.

The seminar featured talks by the Dean of the College of Engineering, Prof. Hanan Al-Nimri, and the Dean of the College of Computer and Information Technology, Prof. Dr. Mounir Bani Yassin related to JUST role in embracing the AI field.

The DeCAIR Project coordinator, Prof. Gheith Abandah, gave a presentation about the DeCAIR project goals and that it aims to qualify experts in artificial intelligence and robotics through a master's program in artificial intelligence and robotics at the University of Jordan and a new bachelor's program in Engineering Intelligent systems at Tafileh Technical University (TTU), in addition to the development of courses in artificial intelligence and robotics for six bachelor's programs and five master's programs in Jordanian and Lebanese partner universities including JUST which is a key project partner.

In turn, the project coordinator at the university, Dr. Ahmed Batayneh, provided information about the importance of the DeCAIR project to graduate students at JUST university, and about the project lab

equipment that JUST will receive during the coming period and supported through this project. He said that the DeCAIR project comes in response to the variables of the Fourth Industrial Revolution and the emergence of artificial intelligence and robotics techniques.

Dr. Omar Al-Zoubi, the project participant, spoke with a group of university professors about the training courses available through the project, and about ways of cooperation between departments in the field of artificial intelligence and robotics.

DeCAIR at the Launching of Jordan's First Student IEEE Computational Intelligence Society Chapter

Tuesday 15/11/2022: Under the patronage of the Dean of the King Abdullah II School of Information Technology, Prof. Dr. Saleh Al-Sharaya, the IEEE Computational Intelligence Society (CIS) Chapter was launched in a celebration that was held in the Ahmad Al-Lawzi Amphitheatre, in the presence numerous faculty members, and a large number of college students.

The IEEE computational intelligence community aims to develop computational models inspired by nature that benefit real-world problems science and engineering, with a focus on neural networks, delivery systems, genetic algorithms, evolutionary programming, fuzzy systems and smart systems. The event aimed to increase student's knowledge on IEEE societies, the goals of IEEE CIS community and student benefits as well as the available volunteer jobs.

Prof. Dr. Ghaith Abandah, former director of IEEE Jordan, and director of the European project to develop a master's program in artificial intelligence and robotics (DeCAIR), stressed the importance of the computational intelligence community goals and activities.

Dr. Mohammad Ragab Abd al-Majeed, Head of the Computer Engineering Department at the School of Engineering at the University of Jordan, reviewed the establishment of the IEEE Foundation, the societies that fall under it, and some related statistics. During the celebration, Engineer Muhammad Al-Barham, a graduate of the University of Jordan from the Department of Mechatronics Engineering from the School of Engineering, reviewed his volunteer experience in IEEE societies, how to benefit from these societies to develop practical experience and acquire skills, and the student benefits that these societies can provide, such as grants, and participation in conferences.

At the end of the ceremony, a discussion panel took place on the importance of IEEE communities in providing students with scientific research skills, communication skills and problem-solving. The panel session was moderated by the head of the Artificial Intelligence Department and the head of the Computational Intelligence Student Branch, Abdul Rahman Al-Sabbagh.

DeCAIR workshop on Modern Higher Education Teaching and Learning Methodologies

Saturday 19/11/2022: The DeCAIR project organized a workshop in the University of Jordan titled "Modern Higher Education Teaching and Learning Methodologies". The 13 participants came from the University of Jordan, Tafila Technical University, and Jordan University of Science and Technology.

The main speaker of this workshop is the expert in modern learning techniques, Dr. Lutfi Al-Sharif, who is professor of Mechatronics Engineering in the University of Jordan and Vice President of Al-Hussein Technical University. The workshop covered several important topics including an introduction to modern learning techniques, project-based learning, problem-based learning, blended learning, flipped classroom, active learning, use of videos in higher education, and UK system of learning outcomes and assessment criteria.

DeCAIR project participated in the Arab Youth Engineers Forum

Monday 28/11/2022: The DeCAIR project participated in the Arab Youth Engineers Forum (SIQ22), which is organized by the Jordan Engineers Association. As a panelist in the panel discussion titled "Technology Trends and Engineering Specializations," Prof. Gheith Abandah shared with the audience the DeCAIR project experience.

Siq22 is a forum organized by the Jordanian Engineers Association, Balqa Governorate branch, and lasted for 3 days, and includes a group of Arab engineers, investors, pioneers, and influencers in the fields of technology, engineering, innovation, and business, to achieve an Arab engineering renaissance for a sustainable economy.

IEEE CS-DeCAIR Workshop on the Security of Industrial Robots

Wednesday 14/12/2022 - The DeCAIR project in partnership with IEEE - Jordan Section and Jordan Joint Chapter of the IEEE Computer Society and Computational Intelligence Society held a workshop on security of industrial robots. The main purpose of this workshop series is to raise the awareness of AI and Robotics related research and applications among the IEEE Computer Society members and the academic community. This workshop featured a keynote speech by Prof. Stefano Zanero from the IEEE Computer Society Distinguished Visitor Program titled:

"Breaking the Laws of Robotics: Attacking Industrial Robots"

During the event, Prof. Gheith Abandah updated the participants about the progress of the DeCAIR project and its plans to organize workshops to announce and discuss its results on a national level.
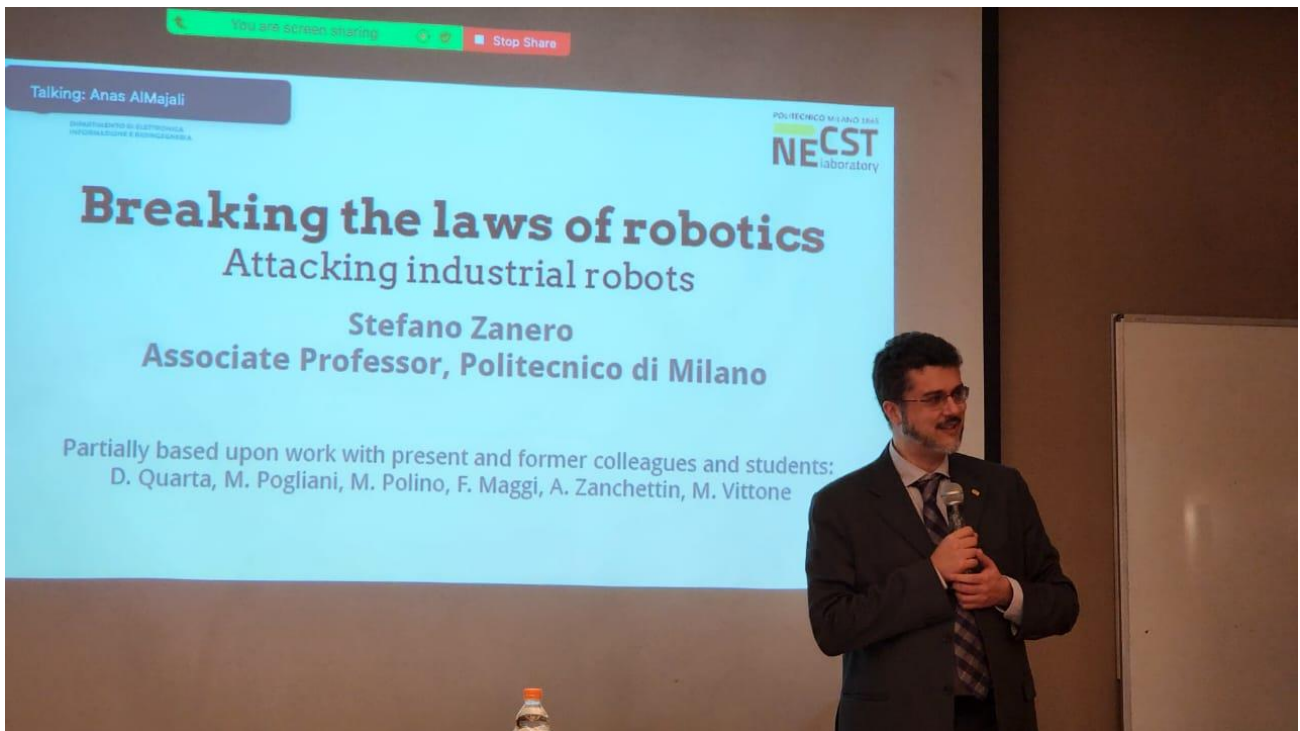
DeCAIR at ERASMUS+ Info Day - Lebanon

Thursday, December 15, 2022: Within the infoday on the Erasmus+ 2023 and ERASMUS+ call for proposals that took place at the Ministry of Education and Higher Education in Lebanon, Dr Majd El Saeid represented the Lebanese University within the panel on CBHE where she presented DeCAIR project and answered questions from the audience about 3 main issues:

- How was conceived the idea of the project DeCAIR
- How did LU entered into the partnership of the project
- Any advice to future candidates based on difficulties encountered during the implementation.

DeCAIR First Workshop on Starting and Managing Research Items

Thursday 29/12/2022: Representing DeCAIR, Prof. Gheith Abandah led the workshop titled "Starting and managing research teams." This workshop was organized by the Deanship of Scientific Research in the University of Jordan addressing various faculties of the university, and explain the differences between research groups and teams, the general objectives of each, and how to form them.

Prof. Abandah said that the process of managing the research group also differs from the research team, where the group is managed by holding meetings, communication, coordination, presenting results, exchanging news and invitations to submit proposals, and forming research teams to implement research projects, while the process of managing the research team is according to project management methods that define ideas and the general vision. Then planning, followed by implementation, then monitoring and controlling, all the way to closing project accounts and activities and achieving goals.

Prof. Abandah also touched on how to succeed in working within these groups and research teams, indicating that there are human factors, situations or difficult circumstances that may hinder the work of that group and research group, and he reviewed how to deal with those circumstances.

DeCAIR Second Workshop on Starting and Managing Research Items

Wednesday 4/1/2023: Representing DeCAIR, Prof. Gheith Abandah led the workshop titled "Starting and Managing Research Teams." This workshop was organized by the School of Engineering and the Deanship of Scientific Research in Al Albayt University and covered the following topics:

- Setting goals and forming research groups and teams
- Managing and working in research groups and teams
- Dealing with human factors and difficult situations and circumstances
- The DeCAIR project and its team experience

DeCAIr Workshop Modern Higher Education Teaching and Learning Methodologies – Lebanon
Wednesday 11/1/2023: Beirut Arab University, in the framework of the DeCAIR project, organized a workshop in its Dibbiyeh campus titled "Modern Higher Education Teaching and Learning Methodologies".

The 18 participants came from the Beirut Arab University and Lebanese university with some participation from the University of Jordan, Tafila Technical University, and Jordan University of Science and Technology. The main speaker of this workshop is the expert in modern learning techniques, Dr. Lutfi Al-Sharif, who is professor of Mechatronics Engineering in the University of Jordan and Vice President of Al-Hussein Technical University.

The workshop covered several important topics including an introduction to modern learning techniques, project-based learning, problem-based learning, blended learning, flipped classroom, active learning, use of videos in higher education, and UK system of learning outcomes and assessment criteria.

DeCAIR Training Workshop on Fundamentals of Robotics

Wednesday and Thursday 11-12/1/2023, representatives of the DeCAIR project visited Beirut Arab University (BAU). The project coordinators Gheith Abandah, Ahmad Bataineh, Murad Al-aqtash, Dimos Papakonstantinou, and Lutfi Alsharif visited Dibbiyeh and Beirut campuses of the university. The visit included meeting with BAU president (Prof. Amr El-Adawi), Dean of Student affairs (Prof. Soubhi Abou Shaheen), and Dean of Engineering (Prof. Adel Elkordi). The visit also included visiting the engineering labs including the new labs equipped through the DeCAIR project and meeting the Dean of School of Medicine to learn about this school's experience in modern teaching techniques.

DeCAIR Training Workshop on Fundamentals of Robotics

Sunday 19/2/2023, for a period of five days, a course on Fundamentals of Robotics began in the laboratories of the Computer Engineering Department at the University of Jordan. This course is organized by the School of Engineering and the International Affairs Unit at the University of Jordan within the activities of the project Developing Curricula for Artificial Intelligence and Robotics (DeCAIR) that is supported by the European Union.

The training team for this course is led by Prof. Lucia Pallotino from University of Pisa. This course covers theoretical and practical aspects of multiple topics including Introduction, Robot Components, Position and Orientation of a Rigid Body, Minimal Representations of Orientations , Kinematics of Manipulators, and Robot Design.

Thirty faculty members from the partner universities of Jordan and Lebanon are participating in this course from the University of Jordan represented by the School of Engineering and School of Information Technology, Jordan University of Science and Technology, Tafila Technical University, Lebanese University, and Beirut Arab University.
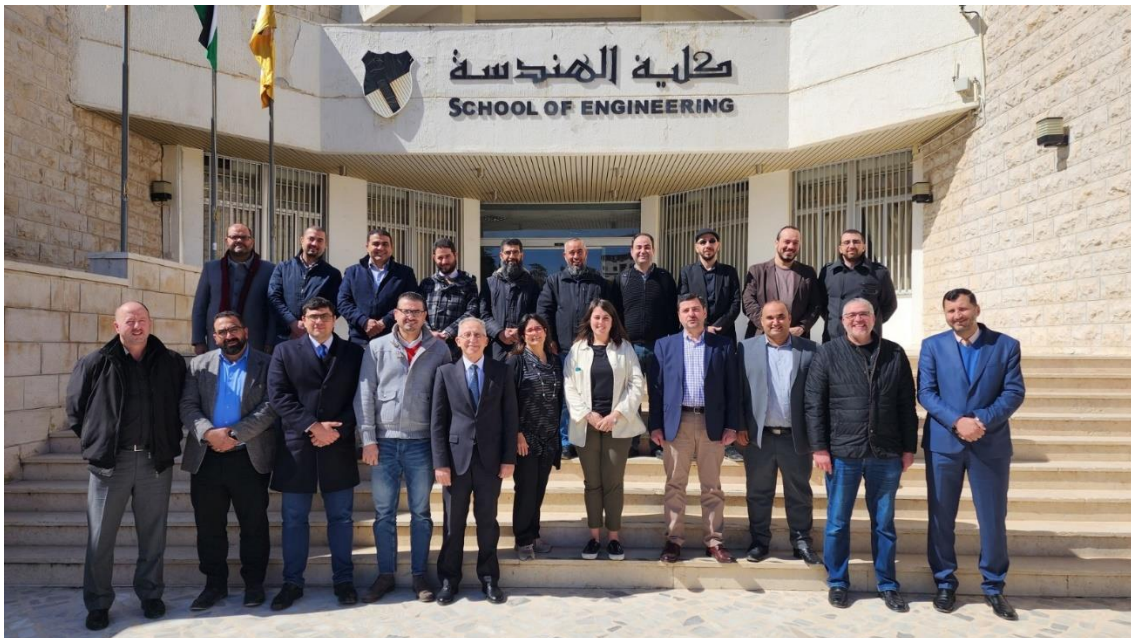
DeCAIR at Orange Innovation Hub in Orange Digital Village

Tuesday 28/2/2023, the DeCAIR project participated in a workshop organized by Orange innovation Hub in Orange Digital Village, Al-Abdali, Amman. This workshop is organized as part of the OpenMIC workshop series under the title "Emerging Technologies & Industry 4.0." Prof. Gheith Abandah represented DeCAIR project and covered Artificial Intelligence and Robotics roles in the Industrial Revolution 4.0, and discussed their wider effects on our lives for the next decade. He also shared the DeCAIR experience in developing curricula and creating new BSc and MSc programs to graduate experts in these technologies.

DeCAIR at the Annual Meeting of IEEE Jordan Section

Wednesday 8/3/2023, the DeCAIR project participated in the Annual Meeting of IEEE - Jordan Section. Prof. Gheith Abandah represented DeCAIR project and gave a keynote speech titled "Megatrends in AI and Robotics for the Next Decade"

DeCAIR's Workshop on Computational Intelligence

Friday 10/3/2023, for a period of two days, a course on Computational Intelligence was organized in the laboratories of the Computer Engineering Department at the University of Jordan. This course is organized by the School of Engineering and the International Affairs Unit at the University of Jordan within the activities of the project Developing Curricula for Artificial Intelligence and Robotics (DeCAIR) that is supported by the European Union.

The training team for this course consists of Prof. Jorge Casillas and Prof. Salvador Garcia from University of Granada. This course covers theoretical and practical aspects of multiple topics including fuzzy logic and control, evolutional computation, and swarm intelligence.

Over twenty members from the partner universities of Jordan and Lebanon have participated in this course from the University of Jordan represented by the School of Engineering and School of Information Technology, Jordan University of Science and Technology, Tafila Technical University, Princess Sumaya University of Technology, Lebanese University, and Beirut Arab University.

DeCAIR's Participation in the Kick-off meeting of the Smart.Eco Project

May 8th-12th 2023: Members of the DeCAIR project participated in the Kick-off meeting of the Smart.Eco project, which is a project funded by the DAAD program and has the partners: Chemnitz Technical University, the University of Jordan, and University of Doha. Smart.Eco aims to using drone and artificial intelligence technologies to solve problems related to the environment in Jordan and Qatar. Prof. Gheith Abandah, Dr. Mohammad Abdel-Majeed, and Dr. Mohammad Mashagbeh of the DeCAIR project discussed with members from TU Chemnitz possible cooperation between the DeCAIR and Smart.Eco projects.

DeCAIR's Participation in the 2023 IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology (JEEIT)

Tuesday 23/5/2023, the DeCAIR project participated in the 2023 IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology (jeeit.net), which is the prime conference in its domain in Jordan organized by IEEE – Jordan Section and Jordan Engineers Association. Prof. Gheith Abandah represented DeCAIR project and gave a keynote speech titled "Monster Artificial Intelligence Models: Architecture, Trends, and Applications."

DeCAIR's Technical Visit to Athena Research Center and National Technical University in Athens

Thursday and Friday 25th – 26th May, 2023, the DeCAIR project organized meetings and technical visits in Athens, Greece. These activities were hosted by Creative Thinking Development (CTD) and included technical and cultural activities including the following:

- Quality Committee Meeting
- Steering Committee Meeting
- Visiting Athena Research Center
- Visiting the Robotics lab in the National Technical University in Athens
- Tour in historical Athens
- Gala dinner in a Greek restaurant

DeCAIR's at the DSR Conference 2023

Tuesday 6/6/2023, the DeCAIR project participated in the DSR Conference 2023. This annual conference is organized by the Deanship of Scientific Research at Yarmouk University. Prof. Gheith Abandah represented DeCAIR project and gave a keynote speech in the opening ceremony titled "Large Artificial Intelligence Models: Architectures and Trends."

Prof. Abandah spoke of major models of artificial intelligence: structures and trends, where he indicated that the world will witness a great development in artificial intelligence, which is expected to equal human intelligence and perhaps surpass it before 2030. As artificial intelligence goes from the specific to the generic, it will be able to implement skills and master different tasks in more than one field .Prof. Abandah also gave a detailed explanation about building deep neural networks and their development in artificial intelligence and its software.

DeCAIR's at Erasmus+ Exhibition: Impact of Erasmus+ in Jordan

Thursday 8/6/2023: The DeCAIR project participated in "Erasmus+ Exhibition: Impact of Erasmus+ in Jordan" organized by Erasmus+ National Office in Jordan. This exhibition presented the impact of the Erasmus+ projects and program on the participating Jordanian institutions and universities. This exhibition was organized on Thursday, June 8, 2023, at the University of Jordan. It is under the patronage of H.E. the Minster of Higher Education and Scientific Research, Dr. Azmi Mahafzah. Representatives of Erasmus+ projects that were funded during the period 2015-2022 participated in this exhibition.

Upcoming Events

June 2023

Advanced Course in Robotics at the University of PISA

June 19th to 23rd, the University of PISA will host the DeCAIR team for a workshop introducing multiple topics and seminars on advanced topics in robotics related to active sensing, guidance, navigation, motion planning algorithms, and AI in Robotics. For the first time, students enrolled in the MSc program of AI and Robotics from UJ will participate in these technical workshops.

19th Steering Committee Meeting

The 19th Steering Committee meeting will take place in Pisa during DeCAIR team visit.

July 2023

MathWorks Workshop on Introduction to Deep Learning Using MATLAB

In the week of July 9th, Mathworks, the company behind the industrial products MATLAB and Simulink, will hold a workshop in the premises of UJ on Artificial Intelligence techniques like deep learning. These techniques can be used to solve complex problems related to images, signals, text and controls. Deep learning can achieve state-of-the-art accuracy in many human-like tasks, such as naming objects in a scene or recognizing optimal paths in an environment. The main tasks involved in deep learning are to assemble large data sets, create a neural network, to train, visualize, and evaluate different models, using specialized hardware – often requiring unique programming knowledge.

These tasks are frequently even more challenging because of the complex theory behind them. In this hands-on workshop, participants will write code and use MATLAB® Online™ to:

- Train deep neural networks on GPUs in the cloud.
- Create deep learning models from scratch for image and signal data.
- Explore pretrained models and use transfer learning.
- Perform classification tasks on images and signals.

September 2023

NLP Training Course in Granada, Spain given by University of Granada Instructors

Prof. Jorge Casillas and a team of professors at the University of Granada will organize a workshop in the field of artificial intelligence applications in the filed of Natural Language Processing (NLP).

Student Internships at the University of Genoa

The University of Genoa, Italy will host nine students from Jordan and Lebanon to participate in three internships. The internships are related to topics related to depalleting,, vehicle training and Re-Identification VTR), and Eye-Tracking. The students were chosen based on their GPA.