



DeCAIR: Developing Curricula for Artificial Intelligence and Robotics

Report on

Workshop on Establishing and Reinforcing the Collaboration between Industry and Academia

Activity Information

Work Package	WP11 – Collaboration with Industry and Community
Task	11.2
Activity Coordinator	Iyad Jafar
Participating Partners	All
Objective(s)	Guidelines and recommendations to execute other work packages
Due Date	April 10 th

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Introduction

Among the activities of Work Package “Collaborating with industry and community”, the DeCAIR team in Jordan organized a one-day workshop titled “Establishing and Reinforcing the Collaboration between Industry and Academia”. The main purpose of the workshop as stated in the project’s proposal is to identify the challenges facing the academia-industry collaboration and provide recommendations to reinforce this collaboration. The workshop was held in hybrid mode at the University of Jordan in Amman on March 31st, 2022 and a total of 37 people participated physically and virtually.

The workshop was inaugurated by the Vice President for Academic Colleges Affairs, Prof. Inam Khalaf. It included topics related to establishing and strengthening cooperation between industry and academia in the field of artificial intelligence and robotics, in which academics, company owners and experts from Jordan, Lebanon and European countries participated. The program of the workshop is shown in Table 1.

Time	Activity
10:30 – 10:35	Welcome message , Prof. Iyad Jafar, DeCAIR Project, The University of Jordan
10:35 – 10:40	Opening message , Prof. Inaam Khalaf, Vice President for Scientific Schools, The University of Jordan
10:40 – 10:50	DeCAIR Project Overview , Prof. Gheith Abandah, General Project Coordinator, The University of Jordan
10:50 – 11:10	Soft Robotics Technologies from Labs to the Real World , Manuel Catalano, Cofounder and Principal Investigator, JOiINT LAB, Italy (Over Zoom)
11:10 – 11:30	Skilling for Employability, Opportunities and Challenges , Ahmad Abu Qaoud, CEO, Co-Founder, Quality Business Solutions
11:30 – 11:50	Linking Academic Institutes with Industrial Sectors , Prof. Yousef Al-Abdallat, Faculty for Factory Program Manager, The University of Jordan
11:50 – 12:10	Break
12:10 – 13:10	<p>Panel Discussion: Towards Sustainable Academia-Industry Collaboration Moderator: Prof. Iyad Jafar Panelists:</p> <ul style="list-style-type: none"> • Ahmad Abu Qaoud, CEO, Co-Founder, Quality Business Solutions • Prof. Yousef Al-Abdallat, Manager, Faculty for Factory Program • Dr. Yazan Al-Zain, Director, Innovation and Entrepreneurship Center, The University of Jordan • Yaser AlSele', Data management and analytics Manager, Orange - Jordan
13:10 – 13:20	Survey Distribution and Closing
13:20 – 14:20	Lunch

Figure 1. Workshop Program.

The workshop started with a short speech by Prof. Inam Khalaf in which she affirmed the university's support, as part of its strategy, for the efforts to develop relations with external parties that support scientific research and capacity-building, offering joint graduate programs with international universities and international institutions, and exchanging experiences and knowledge globally, stressing the importance of strengthening the relationship between industry and academia. Afterward, an overview of the DeCAIR project was delivered by the project coordinator Prof. Gheith Abandah.

The founder of the Italian company JOiINT Lab, Dr. Manuel Catalano, spoke about soft robotics technologies and showed case their success story in collaboration with industry. The

CEO of Quality Business Solutions, Mr. Ahmed Abu Qaoud, pointed out the role of skills development in providing job opportunities and highlighted the need for skilled professionals in the ICT sector in Jordan. The Director of the Faculty for Factory (FFF) project at the university, Prof. Youssef Al-Abdallat, talked about ongoing efforts to link educational institutions with the industry sector and presented some of the success and failure stories for academia-industry collaboration in Jordan.

A major event in the workshop was the panel discussion titled “Toward Sustainable Academia-Industry Collaboration”. Representatives from the industry (Mr. Yaser AlSele' - Orange Jordan), academia-industry linking program (Prof. Youssef Al-Abdallat - Faculty for Factory Program), and entrepreneurship entities (Dr. Yazan Al-Zain - Innovation and Entrepreneurship Center, The University of Jordan) discussed different aspects related to academia-industry collaboration including challenges, success and failure stories, and means to mitigate challenges and facilitate the collaboration. The recommendations out of the panel discussions were as follows:

1. There is a lack of proper communication channels between the two parties. Communication can be strengthened through signing MoM, holding career days and seminars, supporting and promoting incubators in academic institutions, and involving people from industry in teaching some/part of the courses.
2. There is a lack of trust between academia and industry in collaboration.
3. The industry has a lot of problems that needs experts to solve and no company has all the needed specialists, so they need to benefit from those who work in the academia.
4. Industry should accept some risk when considering the collaboration.
5. There is a need for skilled ICT graduates and organizations find it hard to hire specialists with the needed skills.
6. Curricula of academic programs should be updated to include design, leadership, entrepreneurship, team work and communication skills. Also, the industry should be involved in designing the curricula of academic programs.
7. Academic institutions should provide incentives to faculty members to promote the collaboration such as reducing their workload and giving financial and infrastructure support.

The workshop concluded by distributing an electronic survey to participants to collect feedback about different aspects related to academia-industry collaboration. The results of the survey are presented in the following section.

Survey Results

A total of 14 responses were collected for the survey and all were from Jordan; 10 from academia and 4 from industry or entities concerned with academia-industry collaboration such as Faculty for Factory Program (FFF) and Intaj. Most of the respondents (78%) showed they have been engaged in some form of academia-industry collaboration as shown in Figure 2 and around 73% of these respondents rate their collaboration experience out of 5 as shown in Figure 3.

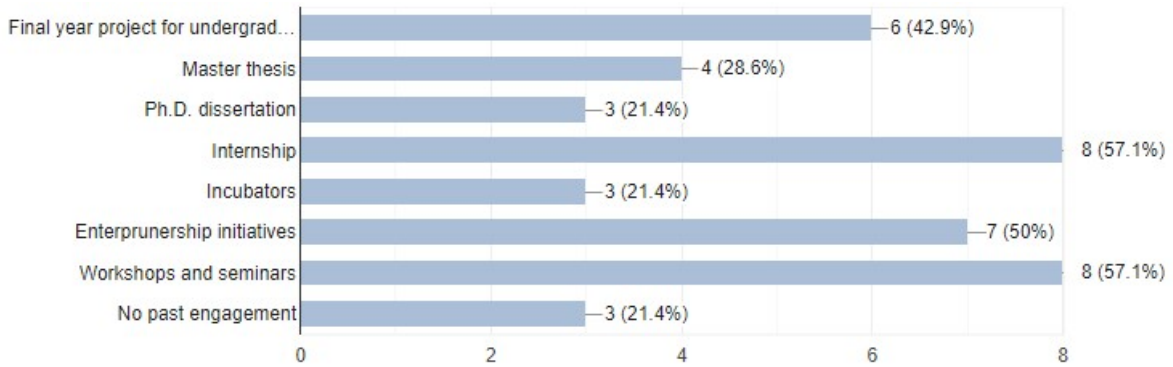


Figure 2. Distribution of Forms of Academia-Industry Collaboration.

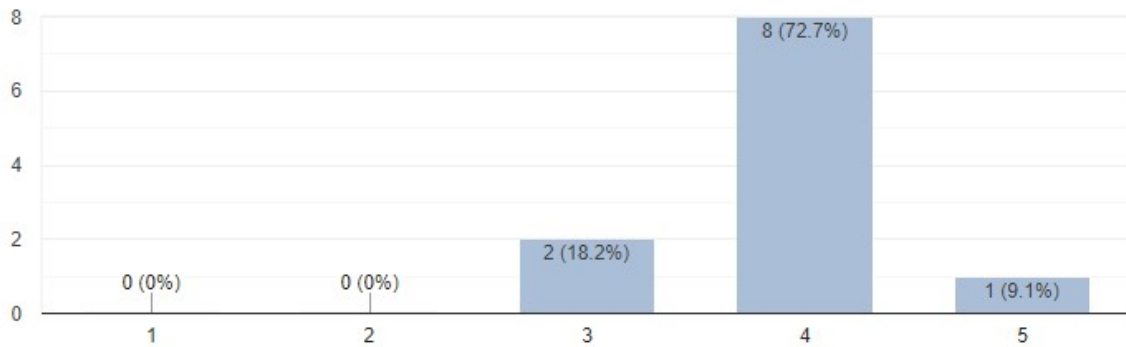


Figure 3. Satisfaction Level of Prior Academia-Industry Collaboration.

Some of the comments received from the respondents regarding their prior collaboration were:

1. Fruitful, but needs more on the outreach side and the efficiency of collaboration.
2. The industry is willing to have guarantees that they will get back what they will pay in advance which is hard.
3. Usually they are sufficient in the material given although sometimes they can be quite lengthy and drive the viewers' attention.
4. The ideas are great but the implementation was not so good.
5. We are designing a platform to minimizing the gap between industry and academia (from FFF).

In terms of the expected mutual benefit of academia-industry collaboration, Figure 4 shows that 77% respondents believe that the industry will benefit from the collaboration. On the other hand, and as shown in Figure 5, 65% believe that academia will benefit from the collaboration. So, there is great consensus on the importance for the collaboration.

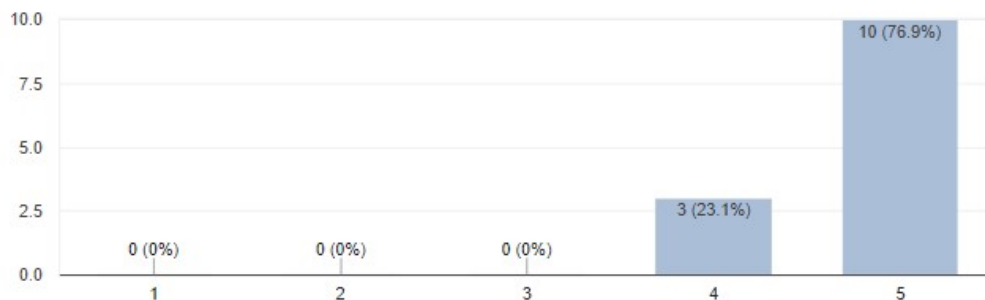


Figure 4. Agreement Level on the Impact of Collaboration on Industry.

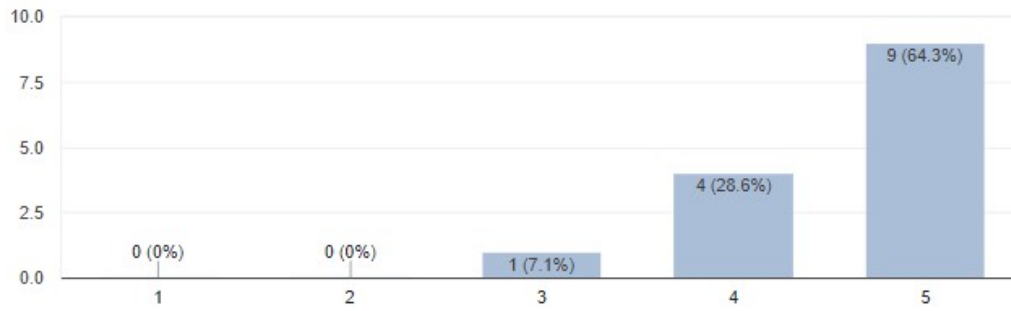


Figure 5. Agreement Level on the Impact of Collaboration on Academia.

In terms of the respondents' opinion regarding the best channels for collaboration, Figure 6 shows their responses. The responses give favor to final year projects, thesis and dissertations, and internships mostly as the best way for collaboration.

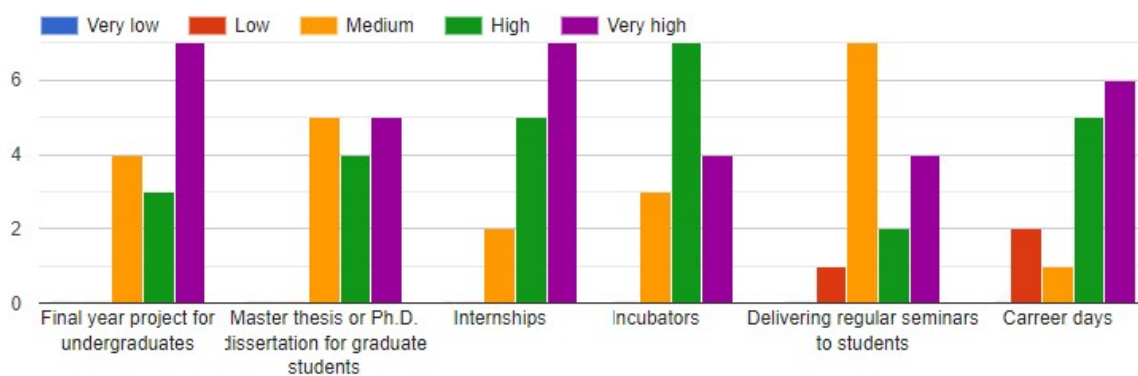


Figure 6. Feedback on Channels of Collaboration

In terms of the respondents' opinion regarding the factors that discourage the collaboration between industry and academia, Table 1 shows the distribution of the responses. The highest factors that affect the collaboration according to the responses are the lack of regulations/guidelines/incentives in academic institutions to encourage the collaboration, lack of infrastructure in academic institutions, lack of financial support from industry, and the time-to-market constraint for businesses. This suggests that both academia and industry should work together mitigate these factors for sustainable and effective collaboration.

Table 1. Impact of Factors Affecting Academia-Industry Collaboration

Factor	Very Low	Low	Medium	High	Very High
Lack of regulations/guidelines/incentives in academic institutions to encourage faculty members to collaborate	0	2	0	6	6
Curriculum of academic programs	0	2	6	3	3
High academic load of faculty members	0	3	4	3	4
Lack of financial and infrastructure support from academic institutions	0	1	1	7	5
Quality of students	0	2	4	3	5
Lack of financial support from industry	0	1	1	7	5
Time-to-market constraint for businesses	0	0	4	8	2