



The Language of Learning



When working with cutting-edge technology, learning opportunities are abundant. **Carlos Sanchez**, a Masters student at the University of Malta, worked closely with IBM on an exciting new project which can help AI better understand language. THINK reached out to Carlos to find out more about his experience working for a global company. By **Aditi Desai**.

Language is an instrument for human connection and emotion as much as it is responsible for relaying information. It's multiterred, complex in sound and meaning, and comes in many flavors. Through technology, languages are no longer linguistic barriers; instead we are able to speak in one language and be understood in another. Computerised technologies face a tall task to accurately understand, synthesise, and interpret human language and communication.

Students need the practical and invaluable experience that comes from collaborating with large scale companies. IBM is a pioneer in the field of linguistic technology and artificial intelligence (AI). As companies research novel systems to make computerised languages representative of human communication, collaborating with students is essential in providing them with opportunities to work on real-world problems.

IBM, a leader in AI for business and a recent developer for language and communication technologies is bridging the divide between education and professional workplaces. This technological powerhouse has been collaborating with university students to identify, understand, and analyse some of the most challenging aspects of linguistics.

MSc student Carlos Diez Sanchez was participating in the Erasmus Mundus European Master's Program in Language and Communication Technologies when he [▶](#)



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collaborated with IBM. 'IBM had a project where they were trying to capture semantic actions in different languages,' Sanchez explains. 'But their resources were in the process of development, so I was brought on to the team to create methods and evaluate current resources.'

He started in early 2016 when Dr Lonke van der Plas from the Institute of Linguistics and Language Technology (University of Malta [UM]) was contacted by a researcher at the IBM Almaden Research Center (US). Afterwards, the two teams combined efforts and began working on technology for multilingual semantic role labeling, a technology used to measure accuracy in different languages.

FROM STUDENT TO RESEARCH APPRENTICE

Working with a company as reputable as IBM can be daunting. Searching for the right resources and tools to navigate professional environments for the first time can induce fear. Yet doing this as a student prior to entering the



workforce can both launch a person's professional career and spark a love for a field. For Sanchez, the collaboration and mentorship with IBM was highly cherished. He was eager to get started with the collaborative process, engage team members, and extend his knowledge beyond academia.

'For most of my life, I've been obsessed with learning languages,' says Sanchez. The intricacies, slight differences, and power of all languages feels intimate — something he strives to learn and absorb. 'My time with IBM only drove my interest further and created a career out of a passion.'

When the opportunity to work on a joint patent for a linguistic technology with IBM arose, Sanchez was quick to dive in. According to Sanchez, though all collaborative endeavors offer students the potential to grow as both learners and societal contributors, understanding the values of a company can be a good check point. After a few days working with IBM leadership, Sanchez recalls thinking that 'everyone was professional in their interactions.' Moreover, 'they [the IBM researchers]

embodied a true sense of research, instead of just trying to automate or reduce research processes.'

A typical day working with IBM did not exist for Sanchez. While researching semantic action in languages took up the majority of some days, other weeks were filled with presentations and team meetings. The weekly meetings were gruelling but rewarding. Carlos recalled that 'I was presenting results all the time. At the same time, I was taking the feedback [given by IBM team members] and running tests to improve results, make changes, and modify systems.'

Though presenting research and results to professionals can be intimidating, Sanchez recalls the immense support he received from his own team in Malta and collaborators from IBM. 'They helped me revise my results and present in the best, most professional way possible. I wouldn't say I was fearful when presenting. I'm sure I made many mistakes when presenting, but this was also a part of the research process.'

Deepening student involvement with professionals must be a core

goal of colleges and higher education institutions. Not only do students learn to balance academics with collaboration and communication, but they develop pride and confidence in their contributions to society. 'Even if you might not end up working at that company, you take away something a lot greater,' says Sanchez. 'The most valuable process is working alongside others, gaining perspective, and excavating for ideas.'

In an ideal world, all students would have the opportunity to seek mentorship and gain real-world experience to add depth to and enrich their university years. These collaborations should not be viewed as external partnerships, but rather extensions of education and academic learning. Collaborative endeavors, much like Sanchez's experience with IBM, must be a priority on our society's educational agenda. Such opportunities broaden the scope, widen classrooms, and empower students with the ability to take charge of their passions and wield education as a tool to invest in societal advancement. 