



# Uruguay: Talent Report on the IT Sector

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## Introduction

Uruguay is a country with a strong Informational Technology (IT) industry, which has been constantly growing.<sup>1</sup> Its IT revenue is generated from both domestic and international sales, demonstrating a process of ongoing internationalization. Considering 2021 sales generated by the sector represented 3.3% of the GDP,<sup>2</sup> the growth in this industry presents significant future opportunities. However, a large part of this favorable growth has been due to the talent that works in companies within its local ecosystem. Uruguay has unmet demand in several of the roles necessary to carry out IT execution.

This study aims to analyze the potential talent in IT in Uruguay based on the people who possess specific skills related to the field, by understanding their characteristics and assessing the country's positioning with respect to other countries in the region.

## Methodology and scope

The main source for this report is data from Microsoft AI For Good Lab and LinkedIn. This data was filtered to select professional profiles located in Uruguay, which as of December 2022 had at least one specific skill related to the field of IT in the areas of Engineering, Information Technology, Media and Communication, Project and Program Management, Quality Systems, Operations, Education, Arts and Design, Consulting, and Research.

The selection from this source resulted in a total of 21,846 individuals, who can be described based on variables such as gender, geographic distribution, education, skills, and work experience, and also the mobility of individuals to and from Uruguay. Across these dimensions, some comparisons can be made between Uruguay, the region, and the United States.

Additionally, data from Microsoft AI For Good Lab and GitHub was used as a secondary source. The objective of this second source is to validate the observations made with previous one, specifically in terms of the number of individuals and their activity, compared to other countries in the region.

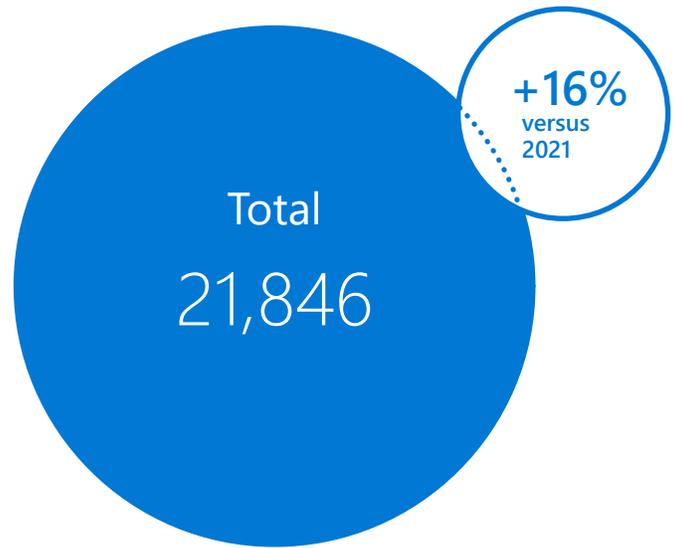
Considering that the set of individuals included in both sources may not necessarily be currently employed in the IT sector, these data points allow for the analysis of the country's talent pool with skills related to IT, and the relevance and utility of IT skills across various fields of activity.

Finally, the study can be considered an approximation of this talent, acknowledging that there may be a larger number of individuals in the country with IT skills that are not visible in this study, as not all of them may be present in the databases consulted.

Results

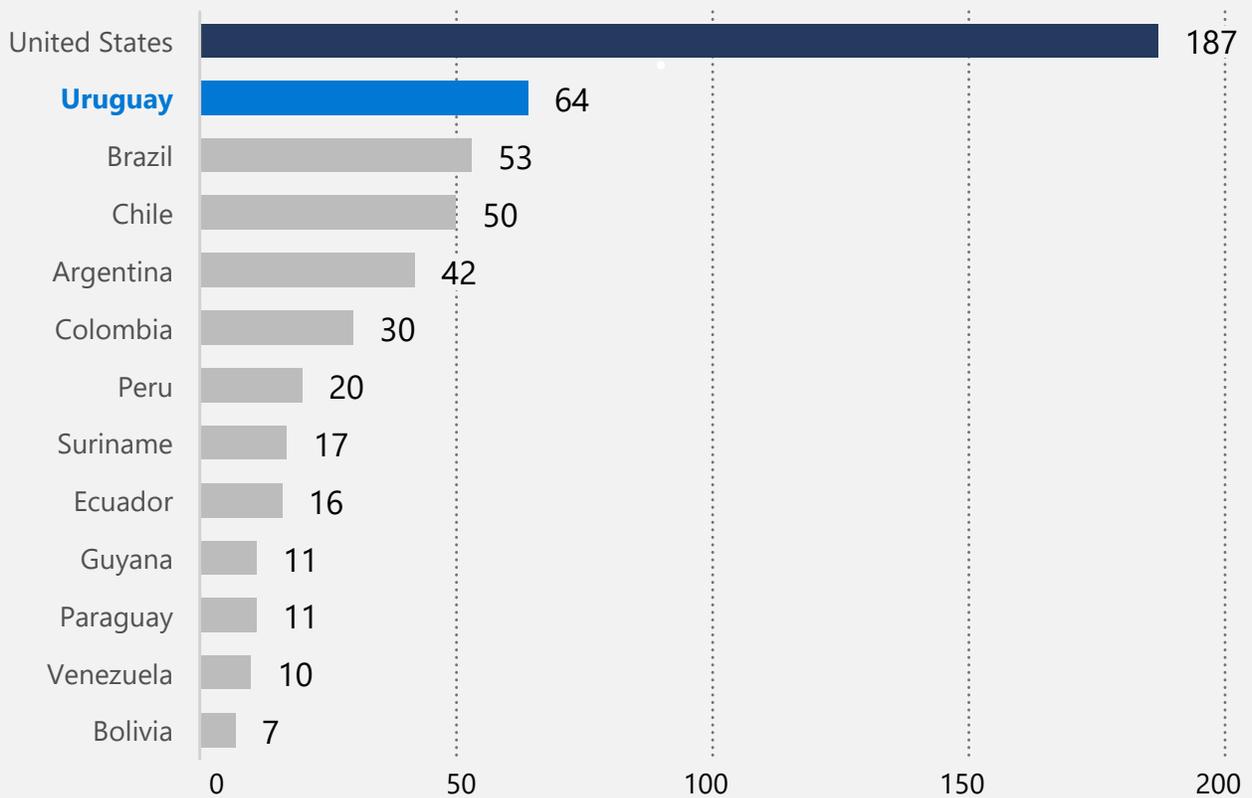
**Number of people with IT skills**

In total, Uruguay has 21,846 people who have acquired at least one IT skill, a number that has increased by 16% compared to 2021. With 64 people with IT skills per 10,000 inhabitants, Uruguay is the country with the highest proportion in the region. However, this proportion is still well below that of the United States, which triples Uruguay with 187 people with IT skills per 10,000 inhabitants.



**Figure 1: Number of people with IT skills per 10,000 inhabitants. Countries in the region + United States, 2022.**

Source: Microsoft AI for Good Lab / LinkedIn



## Gender

This group of people is composed of 79% male and 21% female profiles, with a gender gap of 58%. This gap is in line with that of other studies that analyze the gender composition in both employment and training of profiles related to technology,<sup>3</sup> which show a high degree of male participation.

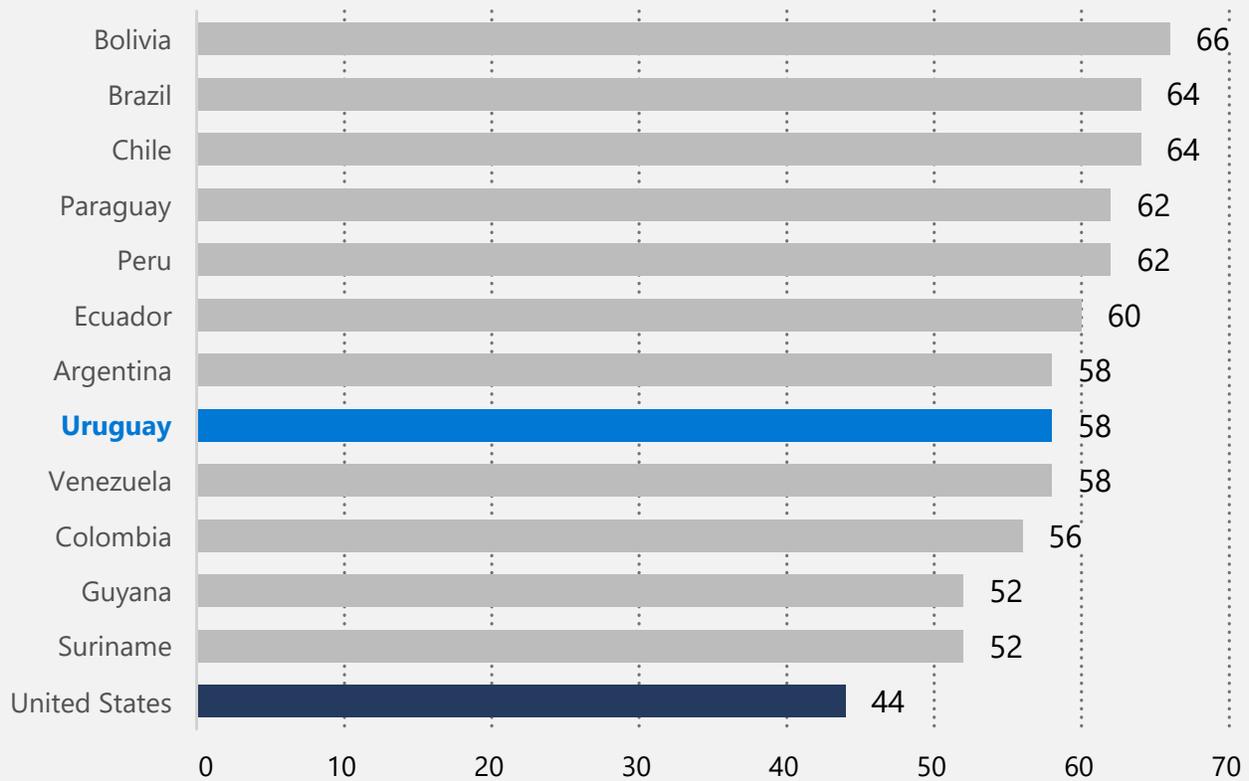
Figure 2 illustrates that Uruguay is close to the regional average gender gap of 59%. Meanwhile, Bolivia and Brazil present the highest gaps (66% and 64% respectively) and Guyana and Suriname have the lowest gaps (both

countries at 52%). This shows the disparity in the region compared to the United States, in which the gender gap is 44%, which is still a high value.

Overall, regarding the gender gap for people with IT skills, Uruguay is doing slightly better than the other countries in the region. However, the country still faces challenges in terms of gender balance, an issue that persists even in the most advanced countries.

**Figure 2: Gender gap for people with IT skills. Countries in the region + United States, 2022.**

Source: Microsoft AI for Good Lab / LinkedIn

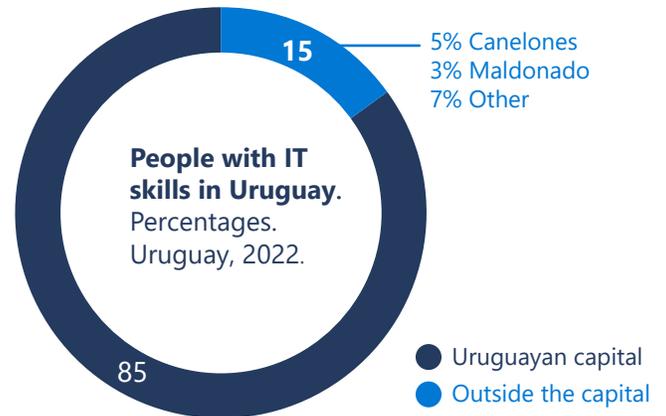


## Geographic distribution

From the professional profiles that shared a more detailed location, there is a strong concentration in the capital of Uruguay, with most people with IT skills in Montevideo (85%) and the remaining 15% in the rest of the country. After Montevideo, the area with the most people with IT skills are Canelones and Maldonado, where 5% and 3% of the people with IT skills are located respectively. These two areas represent more than half of the people with IT skills who are not in the capital. The rest of the areas show very low or residual proportions. However, it is important to mention that people with these skills were found in all areas of the country.

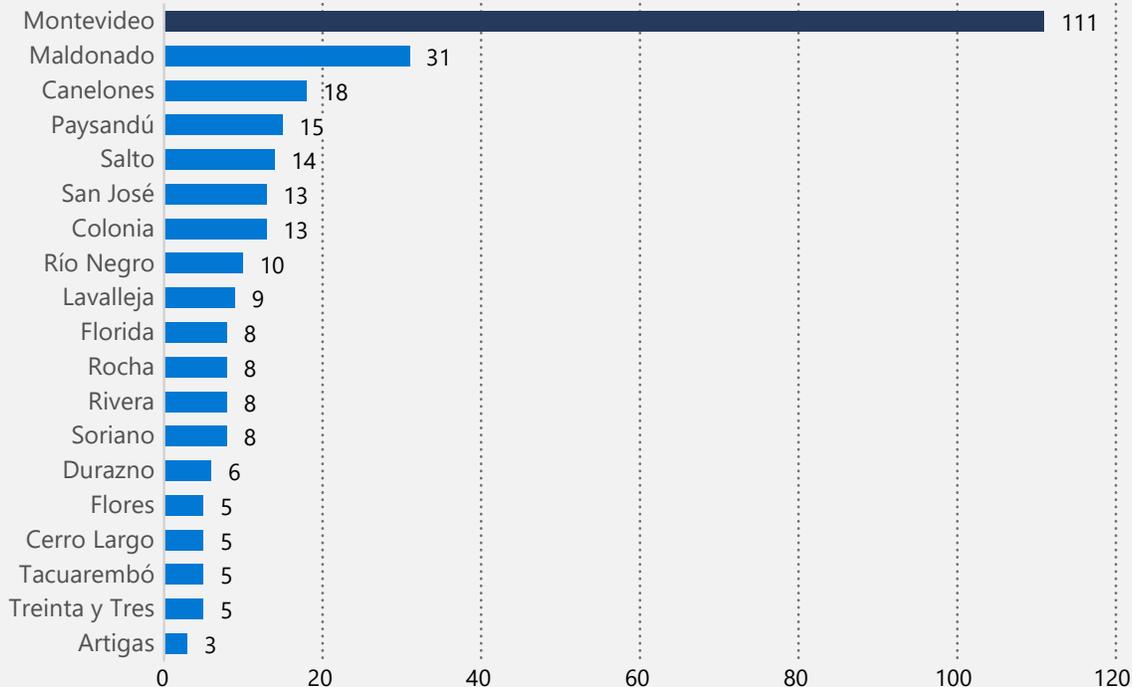
Furthermore, if the number of people with IT skills per 10,000 inhabitants is observed, the areas with the highest presence of them were Montevideo, Maldonado, Canelones, Paysandú, and Salto, while those with the lowest presence were Artigas, Treinta y Tres, Tacuarembó, and Cerro Largo. This distribution of people across the territory is possibly explained by a strong concentration of IT-related activity in the country's capital, both in terms of the location of companies and related educational offerings. It is also

important to mention that various companies in the sector are supportive of remote work. Therefore, the location of these people does not necessarily describe the geographic distribution of their work activity. Companies located in Montevideo routinely hire workers located in other parts of the country, contributing to the decentralization of technology-related work activity.<sup>4</sup>



**Figure 3: People with IT skills per 10,000 inhabitants, by area. Absolute values. Uruguay, 2022.**

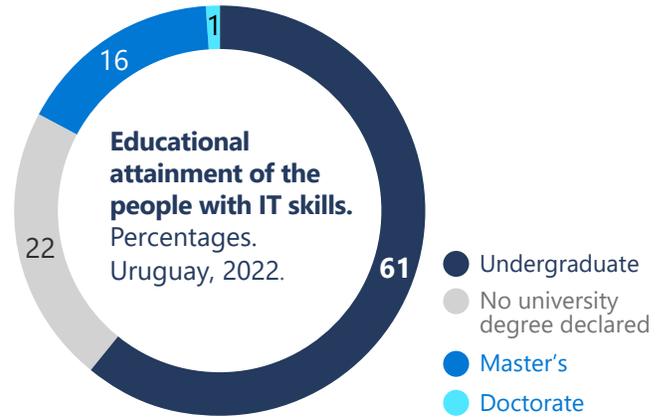
Source: Microsoft AI for Good Lab / LinkedIn



## Educational attainment

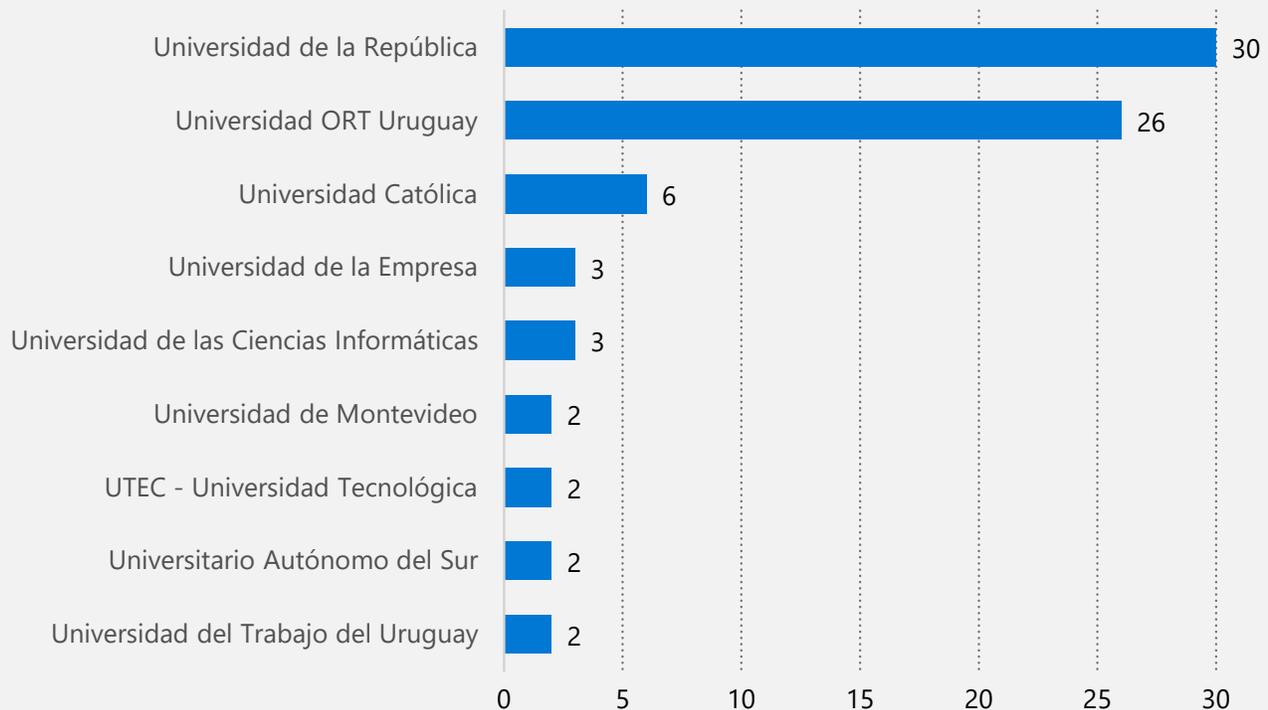
Regarding the level of educational attainment of the people who mentioned their educational level reached, the majority (61%) have an undergraduate degree, 16% have a Master's degree, and 1% have a Doctorate degree, while the remaining 22% did not declare having any university degree.

For those who declared having a university degree, the main institutions were Universidad de la República (30%), Universidad ORT Uruguay (26%), and Universidad Católica del Uruguay (UCUDAL) (6%). There are also 3% of professionals trained at Universidad de las Ciencias Informáticas de Cuba. The rest is distributed among a variety of institutions. Figure 4 below shows the main ones.



**Figure 4: Main universities in which people with IT skills where formed. Percentages. Uruguay, 2022.**

Source: Microsoft AI for Good Lab / LinkedIn



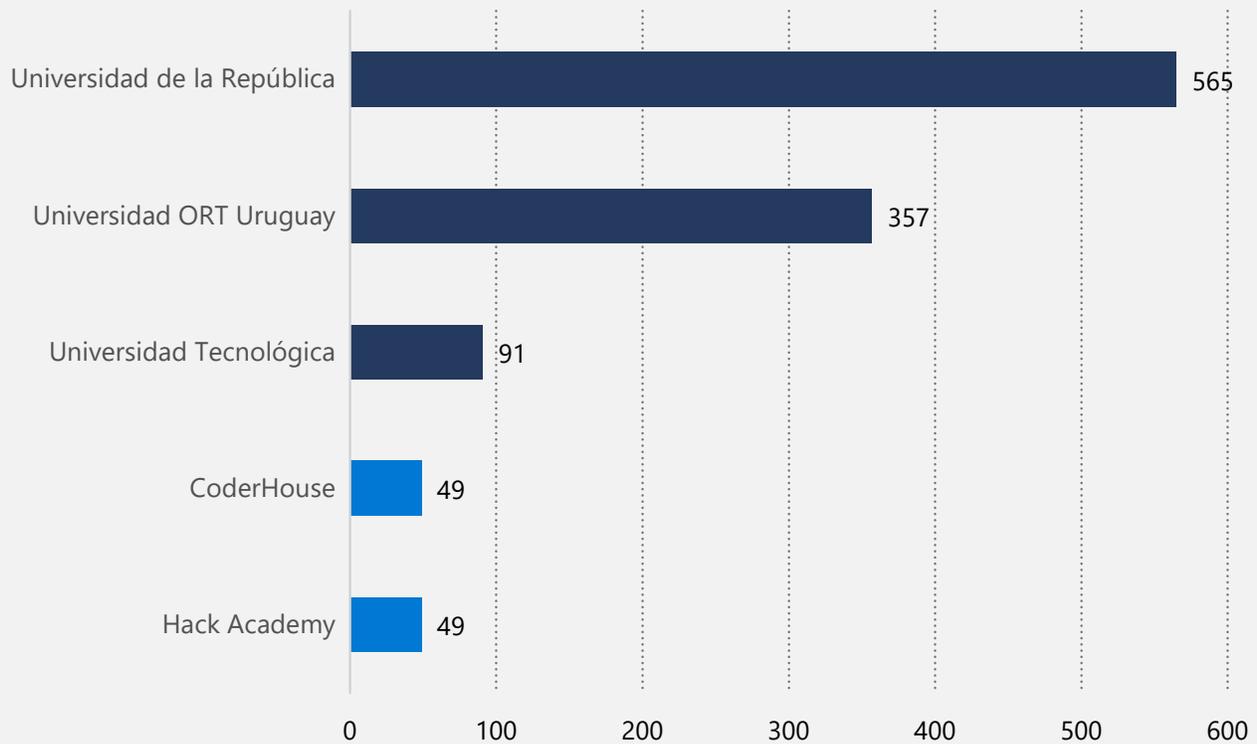
### Training in IT skills

Looking at the institutions where people acquired their specific IT skills in the past year, Universidad de la República appears again with the highest number of recent graduates, with a total of 565, followed by Universidad ORT with 357, and Universidad Tecnológica (UTEC) with 91.

However, two non-university institutes follow next, Coderhouse and Hack Academy, with a combined total of 98 recent graduates. This combined total exceeds the number of recent graduates from UTEC.

**Figure 5: Institutions where people acquired their IT skills in the last year. Absolute values. Uruguay, 2022.**

Source: Microsoft AI for Good Lab / LinkedIn



## Artificial intelligence

When observing the group of people with specific skills in Artificial Intelligence (AI), only 787 of them (3.6% of the total) have these skills. This indicates that Uruguay has 2.3 people with these skills per 10,000 inhabitants, and therefore the country with the highest proportion of AI-skilled professionals in the region, followed by Chile (2.0) and Brazil (1.8).

This value is still substantially below that corresponding to the United States, a country which has 15.4 people with AI skills per 10,000 inhabitants, approximately seven times more than Uruguay.

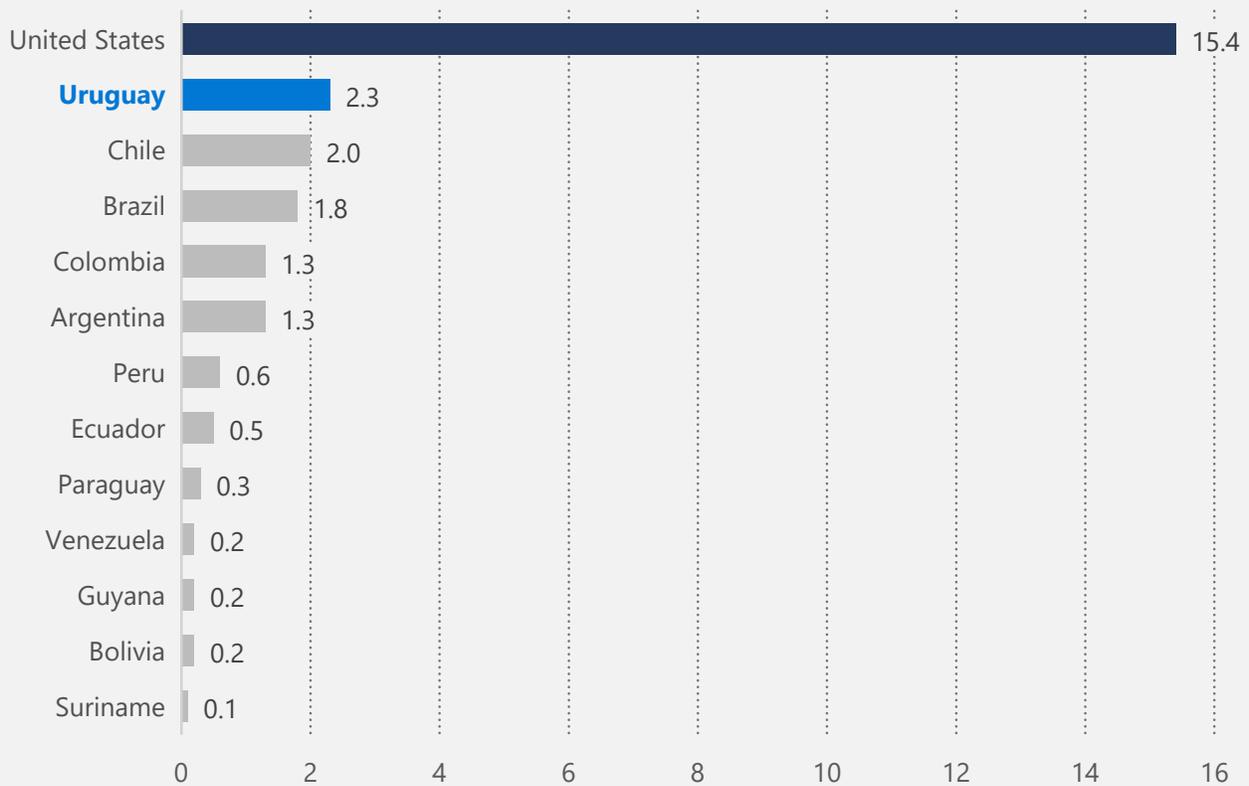
## GitHub usage

Another indicator of IT skills is the use of software development platforms like GitHub, which is mainly used for code version control. A large portion of Uruguay's population is active on GitHub, with 27,500 users per million working-age people, which refers to individuals between the ages of 20 and 64. This number is 28% higher than the second country in the region, Chile, and significantly higher than other countries in South America.

Uruguay's population is not only active on GitHub, but also highly engaged with the platform. They make an average of 0.22 commits per working-age person, which

**Figure 6: People with AI skills for every 10,000 inhabitants. Absolute values. Countries in the region + United States, 2022.**

Source: Microsoft AI for Good Lab / LinkedIn



puts Uruguay in first place amongst its peers. Uruguay contributes 47% more commits than Argentina, and 60% more commits than Brazil.

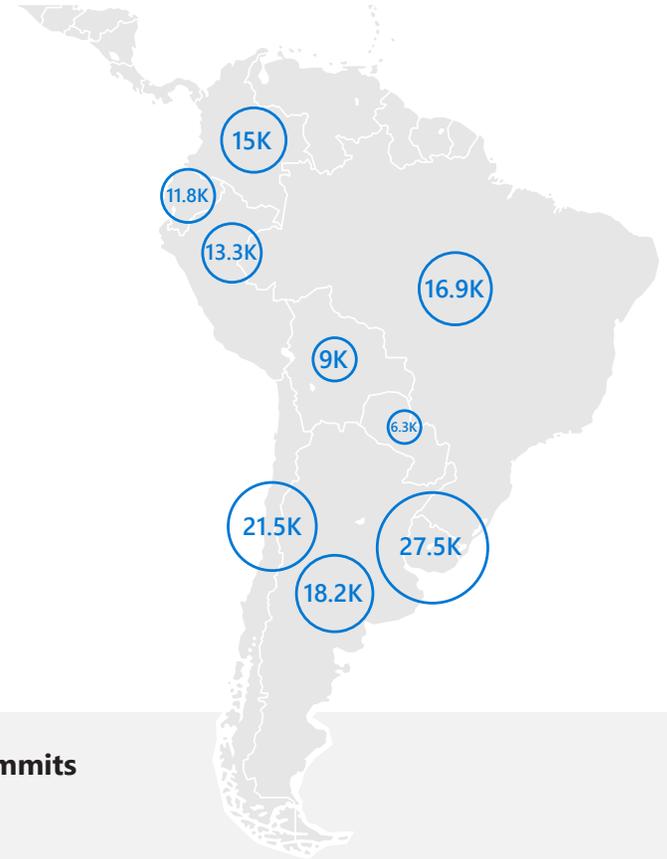
This observation is in line with the Global Innovation Index,<sup>5</sup> which measures global innovation trends and positions Uruguay in third place regionally. The correlation coefficient between this index and the number of commits on GitHub per capita is 0.61, indicating that activity on GitHub is a good signal for estimating the level of technological development.

Regarding the use of data science languages, Uruguay is growing at a similar pace than other countries in the region. This is an indication of the country's increasing focus on the field of AI and the use of data science for decision making in various industries.

These points validate the LinkedIn data that Uruguay is a strong leader in the technology industry in the region.

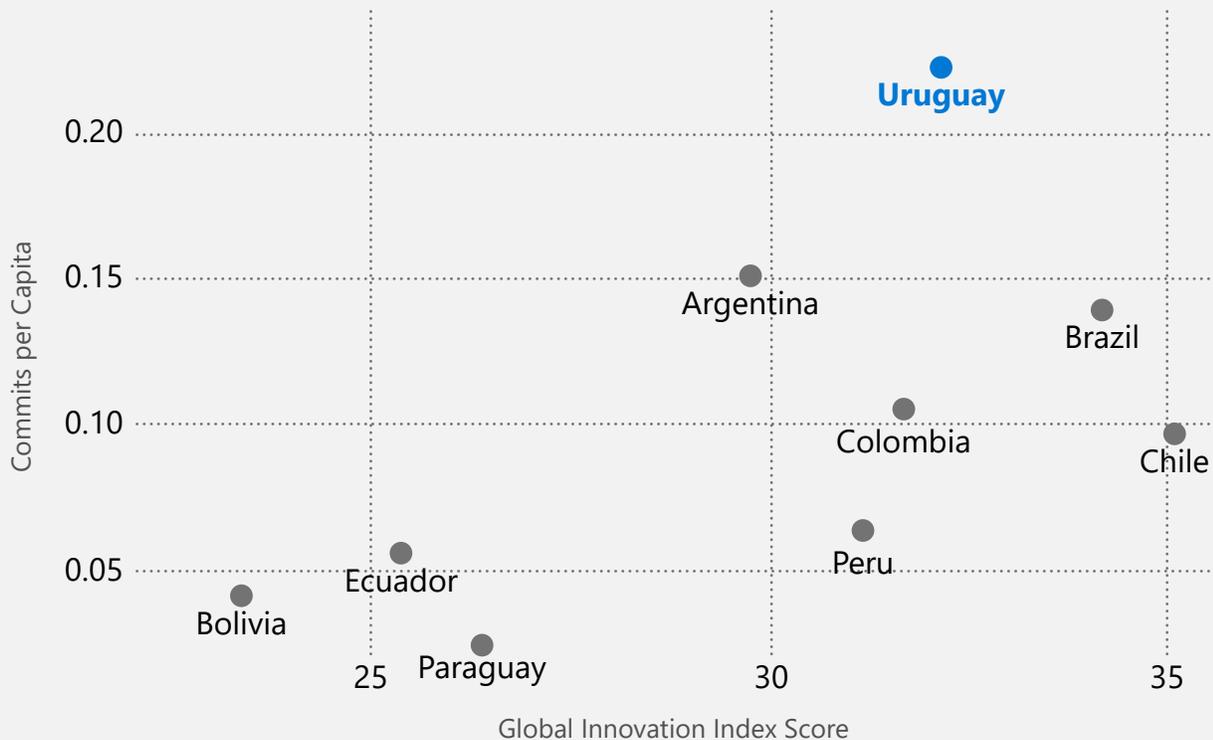
**Figure 7: GitHub users per 1 million working-age people. Countries in the region, 2022**

Source: Microsoft AI for Good Lab / LinkedIn



**Figure 8: Global Innovation Index Score versus Commits per Capita. Countries in the region, 2022.**

Source: Microsoft AI for Good Lab / LinkedIn



## Foreign language skills

Of the total number of individuals in Uruguay with IT skills, the majority (68%) reported English knowledge. Knowledge of other languages is also identified but in much less proportions: 15% in Portuguese, 4% in French, 3% in Italian, and 2% in German.

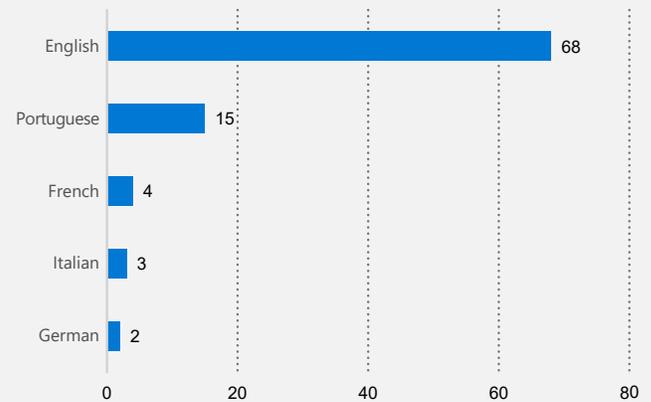
These foreign language skills are favorable considering that they are highly valued for the performance of activities related to IT roles, especially the mastery of the English language.

In comparison with other countries in the region, Uruguay has the highest percentage of individuals with IT skills that also declare English skills (68%), followed by Argentina (66%), Chile (52%), and Peru (51%). Uruguay's percentage is significantly higher than the regional average of 52%.

Given the high proportion of individuals who combine skills related to IT with knowledge of English, Uruguay is well positioned for continued growth in this sector.

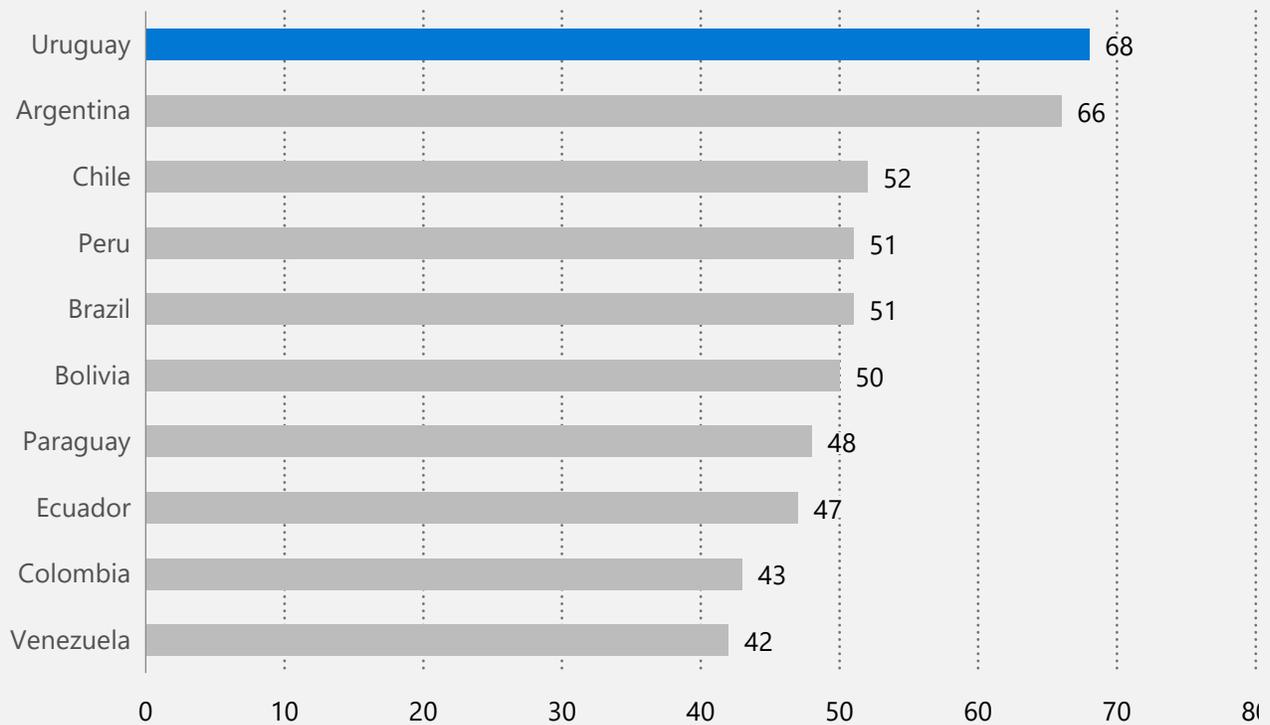
**Figure 9: Percentage of people by language skill, for the people with IT skills. Uruguay, 2022.**

Source: Microsoft AI for Good Lab / LinkedIn



**Figure 10: Percentage of people with English knowledge. Countries in the region, 2022.**

Source: Microsoft AI for Good Lab / LinkedIn

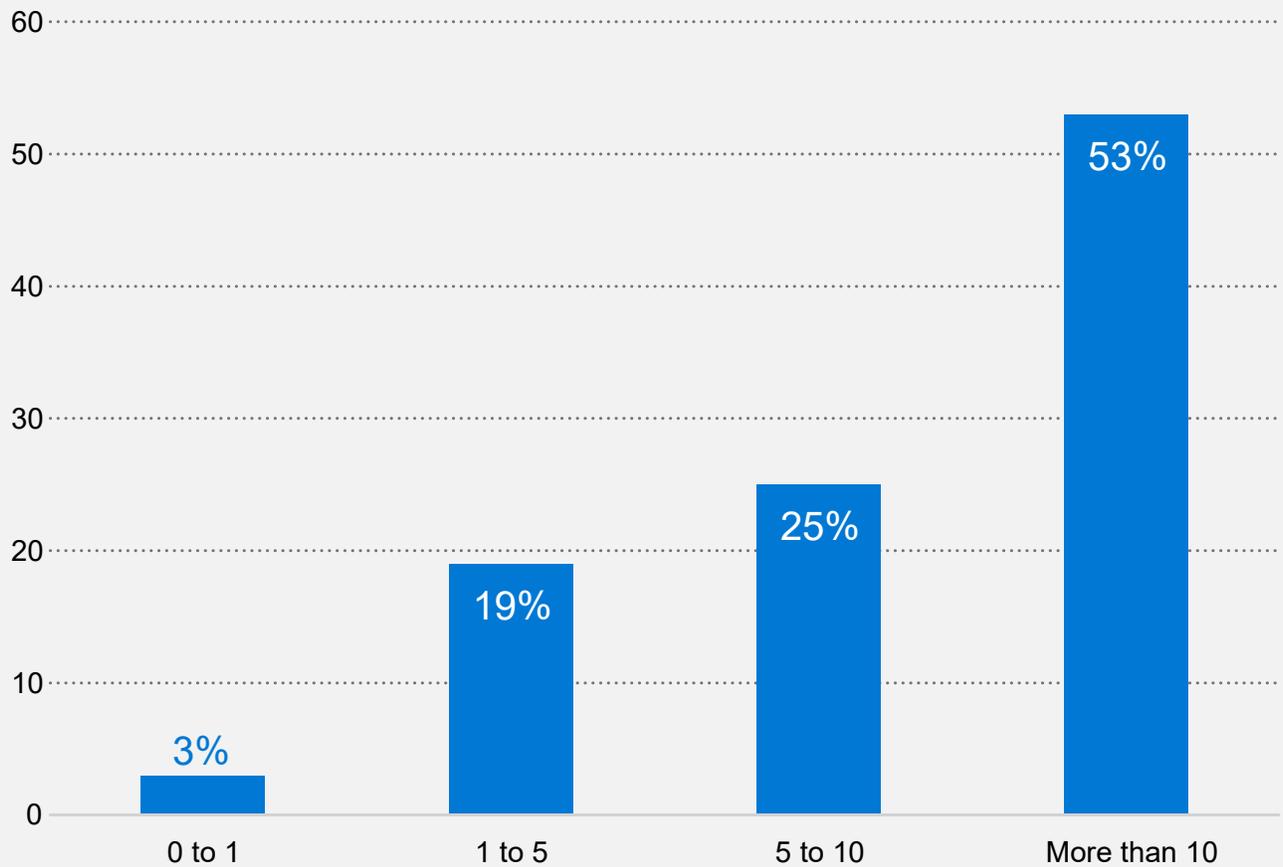


### Career path: Length of employment, turnover, and years of experience

The average length of employment at a specific employer among people with IT skills is 1.6 years. In the last year, one out of every four (a total of 5,221 people) changed jobs. Regarding years of experience, approximately half of these professionals have more than ten years, while the remaining is distributed as shown in Figure 9: 25% have five to ten years of experience, 19% have one to five years, and 3% represent those who are in their first year.

**Figure 11: Percentage of people with IT skills, by years of experience. Uruguay, 2022.**

Source: Microsoft AI for Good Lab / LinkedIn



## Mobility

According to the data, in the last year a total of 802 people in the IT sector immigrated to Uruguay. The main countries of origin were Argentina, India, Cuba, the United States, and Spain.

On the other hand, 678 people in the IT sector who were in Uruguay emigrated to various destinations, the main ones being the United States, Spain, Argentina, India, and Brazil.

It is important to note that a person's mobility is not an indicator of their job mobility; they can move to another country and continue to work for companies located within their country of origin.

**Table 1: Main countries of origin and destination for people with IT skills in Uruguay. Absolute values. 2022.**

Source: Microsoft AI for Good Lab / LinkedIn

Origin		Destination	
Argentina	226	United States	121
India	107	Spain	112
Cuba	100	Argentina	81
United States	62	India	75
Spain	52	Brazil	39
Colombia	31	Colombia	22
Brazil	24	Germany	22
Venezuela	19	Canada	20
Russia	17	Mexico	18
Mexico	16	Ireland	14

## Conclusion

Uruguay's IT sector is favorably positioned compared to other countries in the region, with the highest proportion of people with IT and Artificial Intelligence skills per 10,000 inhabitants, the highest GitHub usage per million, and the highest percentage of people with English language proficiency within the group of people with IT skills. Additionally, the majority of people with IT skills have an undergraduate degree, and the average length of employment is 1.6 years. Just over 800 people with IT skills arrived in Uruguay in the last year, mainly from Argentina, India, and Cuba, while 678 emigrated from Uruguay to

other destinations, especially to the United States, Spain, and Argentina. Considering all of these data points together, it can be concluded that Uruguay's talent in the IT sector is strong and growing, and is highly competitive with respect to other countries in the region.

## References

1. Every year, there is an increase in revenue compared to the previous year, according to the Informe Anual 2020 (CUTI, 2021). In 2020, there was a 6% point drop in sales, considering that multiple business sectors were affected due to the COVID-19 pandemic. However, in 2021, revenue recovered significantly, with an 8% growth compared to the estimated revenue of 2020 (CUTI, 2022).
2. [Informe Anual del Sector TI \(CUTI, 2022\)](#).
3. According to the [Informe Anual del Sector TI \(CUTI, 2022\)](#) women constituted 34% of the workforce in 2021. And according to the [Informe de Formación Académica en TIC 2021](#), 30% of total enrollment in ICT education in 2020 corresponded to women.
4. [Monitor de Estado de Situación de la industria TI \(CUTI, 2022\)](#).
5. [Global Innovation Index \(WIPO, 2022\)](#).

