STUDENT EMPLOYABILITY OUTCOMES AND EMPLOYER NEEDS ANALYSIS 2021-2022

UCC | Career Services

University College Cork, Ireland
Coláiste na hOllscoile Corcaigh

In association with:

University College Cork - Career Services

Understanding the Institution's impact by looking at the Graduate Outcomes Survey Insights, Market Demands in the Key Sectors, and beyond.

Report Outline

EXECUTIVE SUMMARY

Between November 2021 and May 2022, Abodoo Limited, on behalf of University College Cork Career Services, undertook a project and provided "Data Analytics as a Service".

The objective of the project was to provide a highly customised solution to Career Services to understand the existing talent pipeline of the institute in terms of the employment outcomes, the career trajectory of the students based on the programme they completed, the work placement statistics, which students are interested in next-cycle placements, are students interested in going for further studies, and to understand the employer demands in terms of their projected hiring needs, business areas of growth and current and future skills-in-demand. UCC Career Services plan to use all these intelligent insights in supporting the students in their career progression and further studies. The outcome of this study about a strong talent pipeline combined with concrete knowledge of the market demand and industry trends, skills & employability will help Careers Services respond effectively to the needs of our upcoming job placement cycles, and maintains Irish leadership in Europe for skill availability. By demonstrating hard data about alumni success, Career Services would be able to create rich opportunities for national and international prospective student engagement which eventually can drive enrollment - thus, delivering a strong bridge for enterprise and the wider community.

EXECUTIVE SUMMARY

The study was conducted in three phases with a three-fold methodology.

The objective of the first phase was to understand the different supply-side observations of the UCC graduates. Now, more than ever, the findings from the Graduate Outcomes Survey, Class of 2020 prove timely and relevant. The COVID-19 pandemic has brought about substantial change. This change extends to new graduates, who have completed their studies and entered new jobs during the lockdown. Understanding graduate employment rates or unemployment rates, and the fields of study most impacted is key for students, higher education institutions and policymakers alike. The report strives to provide an in-depth view of graduate life for the Class of 2020, nine months after graduation.

Some of the key statistics from the data analysis are listed below:

- 6,628 graduates from 10 different countries (more than 85% are from Ireland, 58,1% female; 41.8% male).
- The most common fields of study are BA Joint Honours, (4.9%), and B.Comm. Honours (3.1%), BA Major Honours (3%), BSc. Business Information Systems (2,1%), Medicine - MB, BCh, BAO (2.1%).

- 52.6% graduated from Undergraduate Honours Degree programmes (Level 8); 30.3% from Taught Masters programmes (Level 9), 10% from higher Diploma (Level 8), 4.2% from Higher Post Graduate Diploma (Level 9), 2.2% from Doctoral Degree (Level 10).
- Overall, 90.7% in employment nine months after graduation. (Much higher than the overall employment rate in Ireland of 75.9%). Employment is highest for Public Administration and Defence, Transport and Storage graduates (100%) and lowest for Financial, Insurance and Real-Estate graduates (82.9%).
- Nearly two-thirds (61.2%) of graduates are on Permanent or Open-Ended contracts. Permanent or Open-Ended contracts are most common in Professional Occupations (64.6%), and least common in elementary Occupations (0.4%).
- The most common graduate salary is €30,000 – €34,999 (22%), (Slightly higher than the same overall common graduate salary in Ireland of 19%) followed by €35,000 – €39,999. Graduates working in Industry (43.1%) contribute the highest proportion of earning more than €40,000 nine months after graduation as opposed to ICT graduates (44.1%) at the national level. The Accommodation and Food Service contribute none of the graduates earning more than €40,000 nine months after graduation (0%).

EXECUTIVE SUMMARY

- September and October are the busiest months in terms of the total number of students being interviewed by employers for job placements.
- The ratio of students getting job placements overseas as compared to Ireland is 2.1%, with almost 98% of students getting their jobs in Ireland.
- Only 5.7% of graduates pursue further study nine months after graduation (comparatively very less than the national average of 13.8%). Further study is highest for Professional Masters in Education (13.5%) as opposed to the national trend according to which the highest proportions are of Arts & Humanities studies (27.4%).
- The highest proportion (23%) of the students opted to go for higher education to better their career options.
- The students with a Finance major in 2022 make up the highest proportion of participants who attended the career fair in 2020 and 2021, making them most interested in seeking jobs, internships, or apprenticeships.

For the second phase of the study, an employer survey was developed to understand the current and near-future labour market trends. The survey was rolled out to 175 recruiters working in five key industrial sectors in various roles.

The distribution of employers across different sectors has been observed as follows:

- **24.3%** of the recruiters who filled the survey operate in **Global Business, Financial & Professional Services Sector**
- **16.6%** deal in the **Manufacturing and Engineering Sector**
- **14.8%** operate in the **Life, Health Science and Pharmaceuticals Sector**
- **10.7%** operate in **Food Processing / Food Retail Sector**
- **10.7%** deal in **Technological & Digital Economy Sector**
- **23%** operate in **"Other" sectors.**

The employers rated the skill and competency areas in the increasing order of importance on a scale of **5 parameters** based on :

- their projected hiring needs now and shortly
- where the students or early graduates must put their maximum focus

The rating scale has been termed as **"Insignificant" (0), "Low"(1), "Average" (2), "High"(3) and "Sky-High"(4)**.

Some of the key findings that have surfaced after the data analytics are listed below on the next slide.

EXECUTIVE SUMMARY

- Across all the five sectors, the common and highest rated "Sky-High" skills/competencies are "Problem Solving and Critical Thinking", and "Industrial Experience (Internships, Fellowships, Apprenticeships, Part-Time work, etc.)".

- The other skill that has been highlighted by the recruiters multiple times, although rated as "High or an average hiring need" is Entrepreneurship Frameworks and Innovation Skills.

- The areas of growth in the next 2-5 years in businesses are going to be centred around "Data", "Engineering", "Innovation in Manufacturing and Safety Practices", "Product Development" and "Sustainability".

- The hardest-to-fill roles and vacancies in the next 2-5 years are going to be in Engineering, Data Analytics and Data Science, Software Development, Sales, Technician Support, Automation Processes, Management Experience, Product Planning, and Research Scientists.

- The crucial technical skills / hard skills that students and graduates should focus on for their long term careers are Engineering Skills, Technical Communication and Translation, Problem Solving and Data Analytics.

- The crucial non-technical skills / soft skills / transferrable skills need where students and graduates should focus on for their long term careers are Communication Skills, Critical Thinking, Adaptability, and Business Intelligence.

- The top-rated recruitment trends that recruiters plan to follow in the upcoming hiring cycle are Behaviour/ competency-based interviews, Technical interviews, Medical Checks (interestingly), Psychometric Tests, and Prior Industrial Experience Checks.

- "Manufacturing and Engineering Sector" indicated with an overwhelming majority of 50% that they are likely to hire the University College Graduates in the next hiring cycle, followed by "Food Processing and Retail Sector" (33.3%) and "Technology and Digital Economy Sector" (33.3%)

The third phase is focused on identifying what skills are currently in need with a special focus on the key sectors by bringing big data into the picture. This provided in-depth insight into what the employers are looking for and connected the misleading job titles with meaningful and interpretable skills. 966 job openings in Ireland (by taking a cue from the graduate outcomes survey data about the highly skewed distribution of more domestic job placements) were analysed by making sure that a representative sample of the overall talent demand was captured with no preemptive bias in the data.

The key insights captured as a result are listed in the next slide:

EXECUTIVE SUMMARY

- 3461 unique market-aligned skills in demand were identified from the 966 different job postings data points.

- The top five skills in demand across all job postings data and their respective percentages captured from the total pool of the skill requirements are Communication (10.1%), Management (9%), Innovation (8.2%), Leadership (5.6%) and Operations (5.6%).

- The various job roles against which these top skills were mapped are, but are not limited to Control System Engineer, Application Engineer, Account Director, Automation Engineers, BMS Manager, C&Q Engineer, Lead Equity Trader, Data and Analytics Manager, C Developer, Director of Architecture, Digital Transformation Director, Associate Director - Supply Chain, Account Manager, Financial Controller, First Line Manager, Freelance Validation Consultant, Software engineers and Developer, Case Management specialists, Startup Expert, Junior Technical Writer, Tax Manager, Technical Designer, Supply and Inventory Manager, Vice President - Pharma, Technical Consultant, Summer Internship - Operations, Technical Program Manager, Workforce Planner, MES, and more.

This report provides an important piece of the evidence base that will allow us to look forward to bright prospects for UCC graduates. It is time to grasp the opportunity to provide our future graduates with new skills, and new ways of thinking and working; reduce inequality in education and employment; and provide for a vibrant social, cultural and economic future.

HIGHLIGHTS OF UNIVERSITY COLLEGE CORK

A Brief Overview

University College Cork, National University of Ireland, Cork (UCC) was founded in **1845** and combines a rich tradition of teaching, research, and scholarship. Its degrees, conferred by the National University of Ireland, are internationally recognised. UCC enjoys an international reputation, which draws more than **3,300** students from **100** countries across the world. The University employs over **2,800** staff. UCC is regarded as Ireland's leading research institute. In addition to this, UCC's graduates are highly sought-after by employers:

- **93%** of its graduates are in employment or further studies, within nine months of graduating.
- This success is attributed to the approach to employability and employment that is demonstrated in a research-intensive university.

HIGHLIGHTS OF UCC CAREER SERVICES

A Brief Overview

UCC Career Services is a central University Career Service available to all UCC students. UCC Careers offer a broad and deep collection of educational services and employer connections to address universal career planning needs. UCC Careers services aim to lead the development, integration, and delivery of University College Cork's Employability Strategy. **Employability has been central to UCC's Academic Strategy 2018-2022 and seeks to renew and strengthen the educational offering through a Connected Curriculum.** A Connected Curriculum sets out to prepare students for their future by instilling in them a collaborative, enquiry-based approach to lifelong and life-wide learning.

Each year UCC Career Services gathers data relating to career-based interventions at numerous points in the student cycle. These include bespoke career education workshops and talks, employer-led workshops, employer fairs, student 1 to 1 career coaching sessions, student career coaching workshops, and work-integrated learning initiatives such as work placement, internships, and employer collaborations. UCC also runs a Career Services-specific award covering activities for up to 600 students – the EmployAgility Award.

In addition to the facts and critical areas of focus; UCC Career Services also prioritises a holistic approach to the development of professional skills and a strong work ethic that will enable its students to chart progressive, fulfilling career paths.
This becomes possible because, in the backdrop, UCC Degree programmes provide an intellectually rigorous, research-based education of the highest standard grounded in practice. Moreover, UCC's employability and career development initiatives are delivered through curricular, co-curricular and extra-curricular activities and are supported by multiple units across the university.

Some of the important data sources collected and collated by UCC Career Services include:
- *UCC's Graduate Outcomes Survey which is an annual survey that is fed back to the Higher Education Authority*
- *Career's Fair Data anonymised data from UCC's Career Connect system that also articulates employer engagement, employer interactions through events, and careers advisory consultations*

UCC Career Services identified that all of these data sources in addition to further data collection from employers and real-time job board postings big data can be well leveraged to provide more insights, highlight patterns and trends and understand the complete picture of the supply and demand side of the labour market in Cork and to ask the right questions to put in more focus next. This exercise can create a huge impact on University College Cork and its related service offerings.

METHODOLOGY

The main objective of this project is to use existing data from its graduate outcomes and data collected from students after graduation, as well as data from engagement with Career Fairs hosted on campus by Career Services, hearing what employers have to say about current and near-future market demands, and capturing real-time big data from job boards for mapping job descriptions to skills to further analyse and understand the story that all of these individual datasets are telling as a whole.

To achieve this objective, **a three-fold methodology** has been employed.

The objective of the first phase was to understand the different supply-side observations of the UCC graduates. Therefore, in the first phase, the existing data has been collected from Careers Services, to be fed into a data pipeline. The data has been cleaned and processed for Descriptive Analysis, Exploratory Analysis, and Inferential Analysis to extract useful insights from the data. After testing and re-iteration, a visualisation dashboard has been created to answer critical questions like **Snapshot of Students, Employment Outcomes Overview, Details about the job type, Analysis of the career trajectory of the students based on the programme they completed, Work Placement Statistics, Recruitment Fair Data Insights (2020-2021), Further Studies, EmployAgility Awardees Details.**

"When students have the support to connect their education to a career, they are more likely to say their education will be worth the cost."

- Eleanor Donoghue,
Head of Career Services

METHODOLOGY

This **second phase** of the project methodology report focused on understanding the industry demands from employers' lens in terms of:

- **Their projected hiring needs**
- **Areas of growth in the next 2-5 years**
- **Top-sought job roles which are going to be hardest to fill in the next 2-5 years**
- **Most-in-demand skills (both technical and non-technical).**

This phase of the project focussed on the qualitative analysis using market intelligence to design surveys to roll out to industry experts to ask focused questions about the latest trends in the labour market. The five significant industrial sectors were identified to focus on were:

- *Manufacturing and Engineering Sector*
- *Life, Health Science and Pharmaceuticals Sector*
- *Food Processing / Food Retail Sector*
- *Global Business, Financial & Professional Services Sector*
- *Technological & Digital Economy Sector*

The outcomes of this phase are expected to contribute significantly to comprehending and designing the 1:1 career advising interactions and career fairs strategies for the upcoming year. With these insights, UCC Career Services can immediately begin improving career programs. These will also allow the institute in highlighting their graduates' value and relevance by using the right language that employers and job-seekers recognise.

METHODOLOGY

Finally, the **third phase** brought in an innovative approach to looking at the industry trends by incorporating big data into the research. **This required data capturing on fast live occupational demand data (e.g., annual job openings from different job boards), and translating the job posting content (job description, responsibilities, etc.) into work-relevant skills that are easy to recognise and understand.** This translation is called the "*skillification*" of the occupational demand big data.

The collated data was converted into a robust dataset and through a data pipeline, the dataset was fed into a natural language processing algorithm to extract the skills from the job posting data against different job titles. These insights were then transformed to create a custom data display dashboard powered by visualisation software solutions. This skill-tagging also lays the groundwork for a direct comparison between the skills the graduates have learned through their degree curriculums and the skills employers are seeking.

The same principles of these three phases of the study can be applied to program review at a broader scale to ensure that degree programs teach the in-demand skills that graduates need to succeed to increase employability. This will help in also providing a broad and deep collection of educational services and employer connections to address universal career planning needs. Just as important, the institute can demonstrate this alignment to current and prospective students, giving them clarity and confidence about the relevance and value of their education.

UCC Career Services

PHASE 1:

GRADUATE OUTCOMES SURVEY INSIGHTS - WHAT KEY QUESTIONS CAN GRADUATE OUTCOMES DATA ANSWER?

VISUALISATION DASHBOARD 1: GRADUATES' CAREER OUTCOMES 2020 INSIGHTS

The dashboard displays the cross-functional and multidirectional graphical relationships between various data features captured from Graduate Outcomes Survey Dataset 2020 and Career's Fair Data. The analysis surfaced unique findings such as:

1	**A Snapshot of Students' Cohort**
2	**Employment Outcomes Overview**
3	**Details about the job type**
4	**An analysis of the career trajectory of the students based on the programme they completed**
5	**Work Placement Statistics**
6	**Recruitment Fair Data Insights (2020-2021)**
7	**Further Studies**
8	**Work Awardees Details**

Abodoo Limited   University College Cork - Career Services

Click on the image on the left to access the live visualisation dashboard.

INTRODUCTION TO EXISTING DATA ANALYTICS

The project's first phase involves analysing the existing datasets from the UCC Career Services **Graduate Outcomes Survey Dataset** of **6,628 students** from the 2020 cohort and **Career Fair Datasets** for 2020 and 2021.

Tracking graduate outcomes is crucial to improving the quality of education, and the outcomes of both future students and graduates. In assessing the relevance of studies, gender pay gaps and employment outcomes (amongst many other factors), the UCC Career Services can bring the voice of graduates to the forefront of evidence-based decisions.

The Graduate Outcomes Survey is a national survey distributed to all graduates of higher education institutions (HEIs), 9 months after graduation. The outputs of this phase of the study focus not solely on future graduates but highlight the employers associated with the college and are interested in hiring the graduates. Moreover, in-depth analyses are provided for international graduates and postgraduates, demonstrating the scope and representativeness of this study and more importantly, the far-reaching implications of this study. Factors explored in this report include **employment outcomes, source of employment, location of employment, graduate salaries, relevancy of studies, enrolment in further studies, student profiles who participated in the career fairs, and much more. These factors are further broken down by factors such as gender, the field of study, institute type and level of study.**

Students' Geo Distribution Map
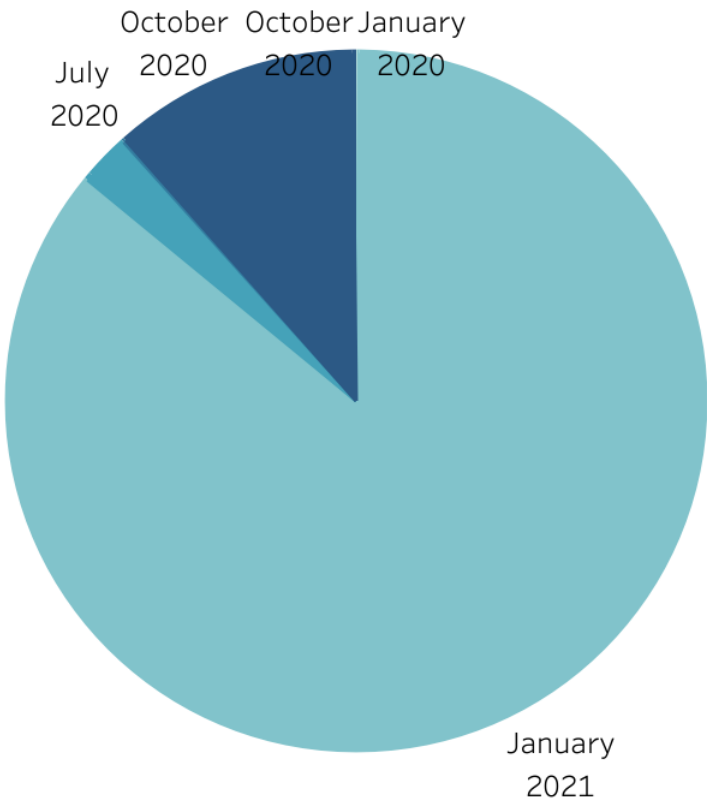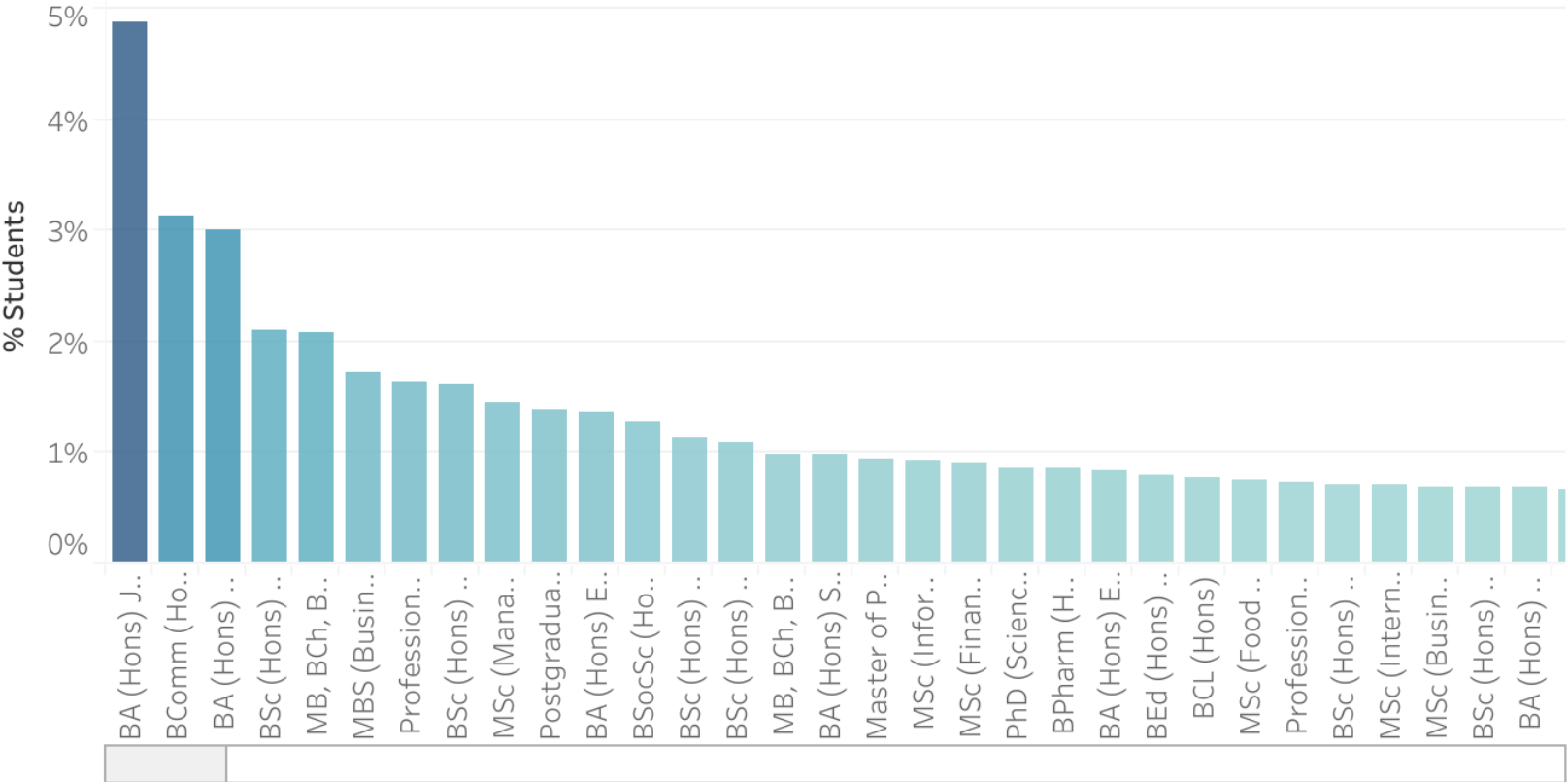

© 2022 Mapbox © OpenStreetMap

Count of Students

6,628

Students' Gender Distribution
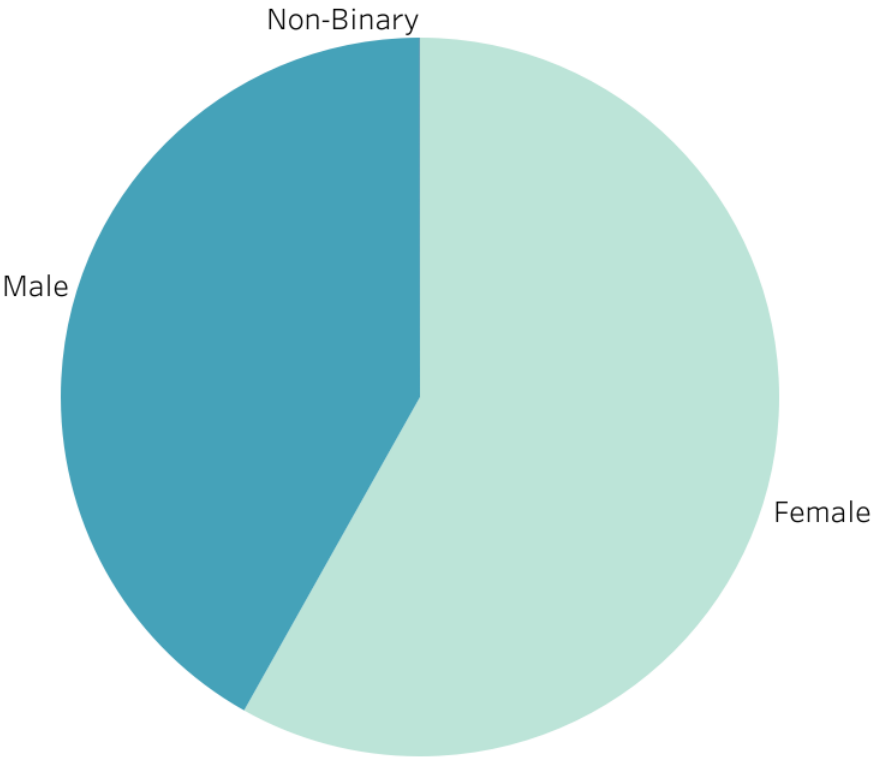
Graduation Timeline

Distribution of Courses Opted by Students

SNAPSHOT OF THE VISUALISATION DASHBOARD TOP-LINE INSIGHTS

A SNAPSHOT OF STUDENTS' 2020 COHORT

- ## Students' Geo Distribution

Region	%
Ireland	85.03%
UK	0.75%
EU	1.44%
Africa	1.05%
North America	2.2%
Far East	4.96%
Middle East	0.18%
Other (Overseas)	4.17%
South America	0.12%
Australia and New Zealand	0.08%
Non EU – Europe	0.11%
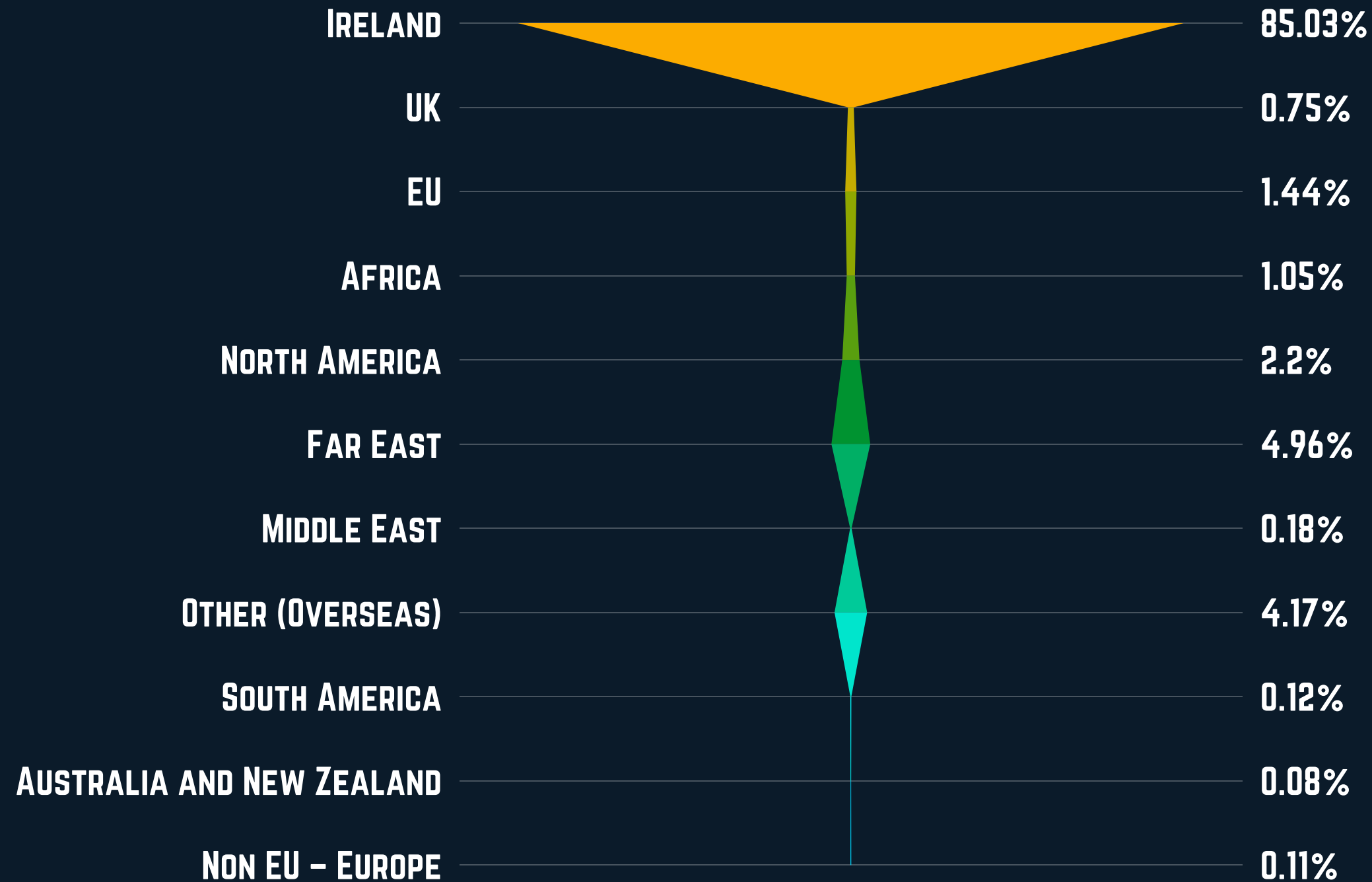
The funnel chart on the left displays the top locations of UCC alumni (students of the 2020 batch). The larger the funnel area, the more alumni you have in that location. This implies that the largest portion of the students belongs to **Ireland (85%)** out of which **49.5 per cent live in Cork.**

Far-East and Other (Overseas) make the second and third largest regions where students live. Both the regions contribute almost the same percentage of the students. The analysis shows that the students' geo-distribution is highly skewed with only **15% of the students joining the institute from abroad.** The regions where the least number of students are joining the institute are **Australia and New Zealand (0.08%), the Non-EU – Europe (0.11%), and South America (0.12%)**

A SNAPSHOT OF STUDENTS' 2020 COHORT

- ## Students' Gender Distribution

Rather not say
1%

Male
41.83%
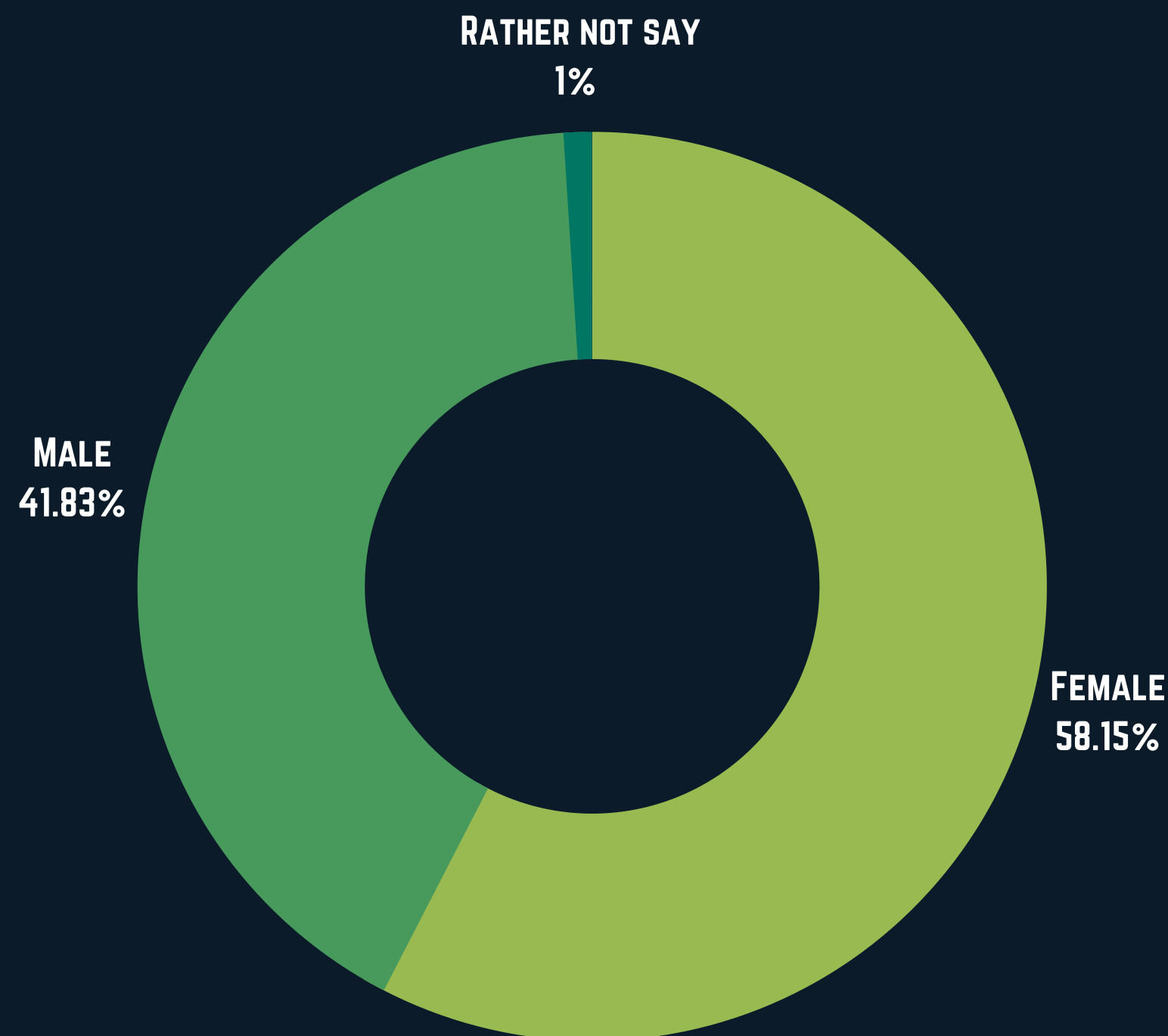
Female
58.15%

The chart on the left represents the following statistics:

- **Females** account for **58 per cent** of the students surveyed.
- While **males** account for **42 per cent.**
- Only about **0.02 per cent** of people identify as **Non-Binary**, and
- About 1% do not identify with any of the genders.

While the majority number of female graduates opted for courses such as BA Honours in Early Years and Childhood Studies (95.6%), BSc. Honours - Nursing (91.7%), BSc. Soc (89.4%); the courses opted for by the male graduates in the majority are MSc. Infomation systems for Business Practices (72%), MBS Business Practice (67%) and BSc. Honours Finance (69.3%),

A SNAPSHOT OF STUDENTS' 2020 COHORT

- **Students' Graduation Timeline**
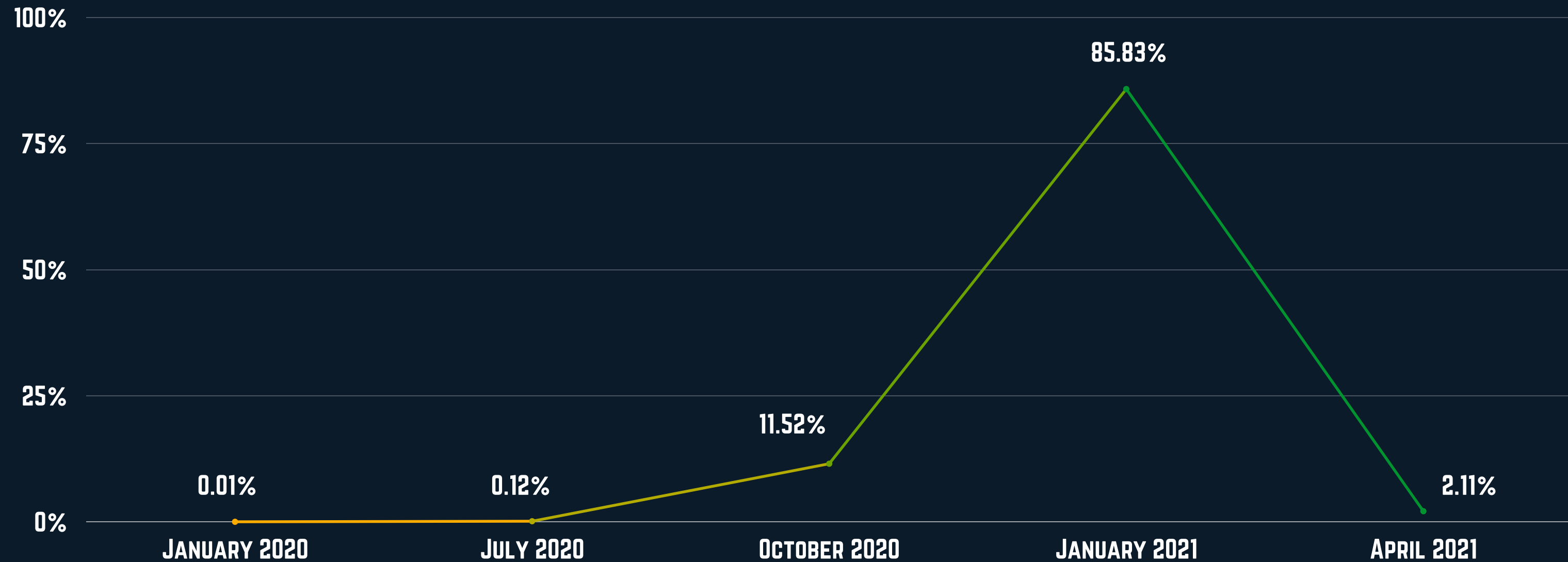
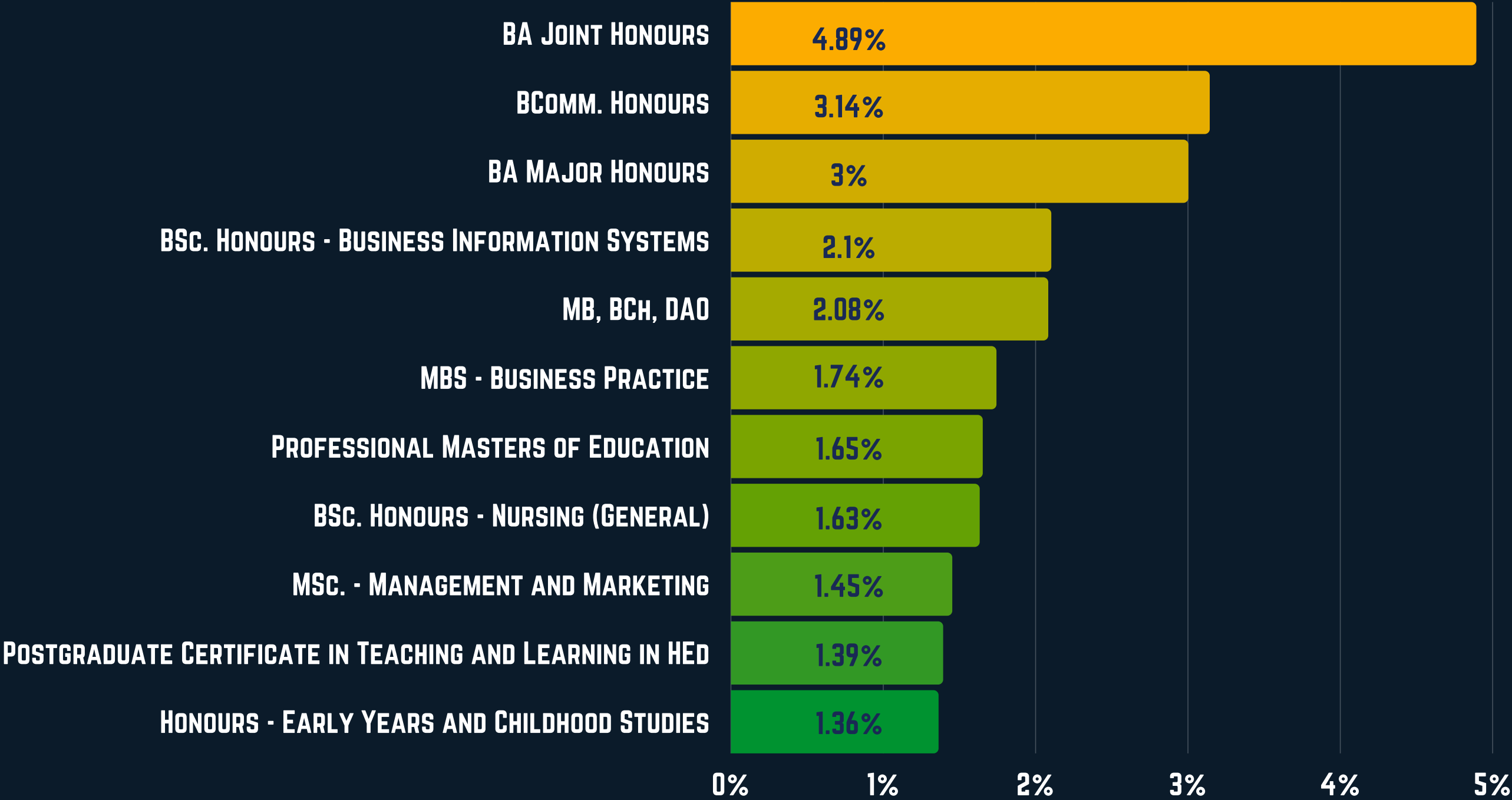The above line chart represents the graduation timeline of the students. 85.8% of students considered for the analysis graduated in January 2021.

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UCC Career Services

A SNAPSHOT OF STUDENTS' 2020 COHORT

- **Courses Opted By Students'**

Course	Percentage
BA Joint Honours	4.89%
BComm. Honours	3.14%
BA Major Honours	3%
BSc. Honours - Business Information Systems	2.1%
MB, BCh, DAO	2.08%
MBS - Business Practice	1.74%
Professional Masters of Education	1.65%
BSc. Honours - Nursing (General)	1.63%
MSc. - Management and Marketing	1.45%
Postgraduate Certificate in Teaching and Learning in HEd	1.39%
Honours - Early Years and Childhood Studies	1.36%

0% 1% 2% 3% 4% 5%

The chart demonstrates the **top 10 courses** opted for by the students.

BA (Hons) Joint Honours Degree accounts for 4.8 per cent of students,

Whereas **BComm (Hons)** and **BA (Hons) Major Honours** got roughly **3%**.

The rest of the details could be found on the left chart.

A SNAPSHOT OF STUDENTS' 2020-2021 COHORT

- **Overall Current Status of the Students' Batch**

Some of the key statistics from the graduate outcomes data analysis are listed below:

- **6,628** graduates from **10 different countries** (more than **85% are from Ireland, 58,1% female; 41.8% male**).
- The most common fields of study are **BA Joint Honours, (4.9%), and B.Comm. Honours (3.1%), BA Major Honours (3%), BSc. Business Information Systems (2,1%), Medicine - MB, BCh, BAO (2.1%).**
- **52.6%** graduated from **Undergraduate Honours Degree programmes (Level 8); 30.3% from Taught Masters programmes (Level 9), 10% from higher Diploma (Level 8), 4.2% from Higher Post Graduate Diploma (Level 9), 2.2% from Doctoral Degree (Level 10).**
- Overall, **90.7%** in employment nine months after graduation. Employment is **highest** for **Public Administration and Defence, Transport and Storage graduates** (**100%**) and **lowest** for **Financial, Insurance and Real-Estate (82.9%).**
- The sector-wise breakdown of students earning more than 40,000 Euros after nine months of their graduation:

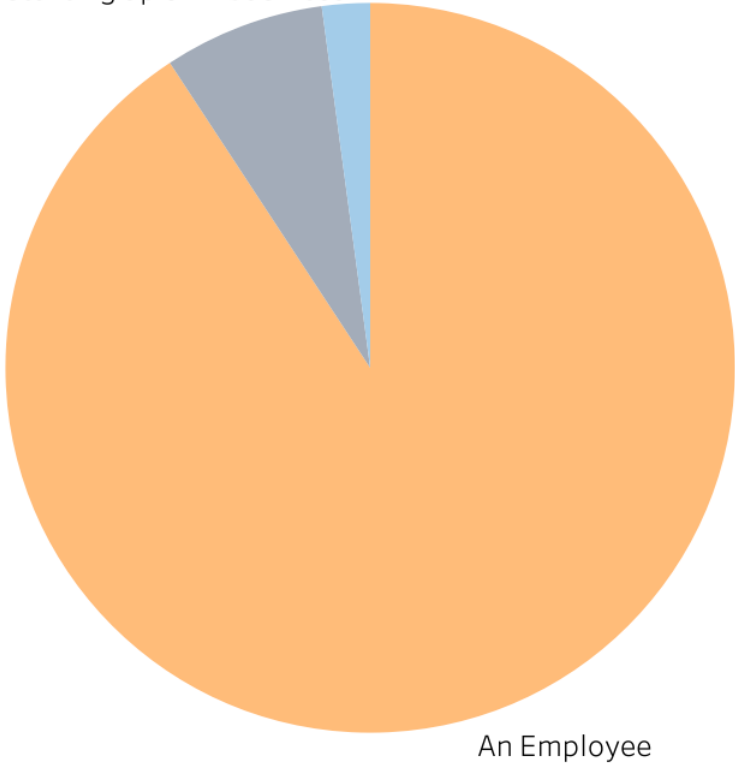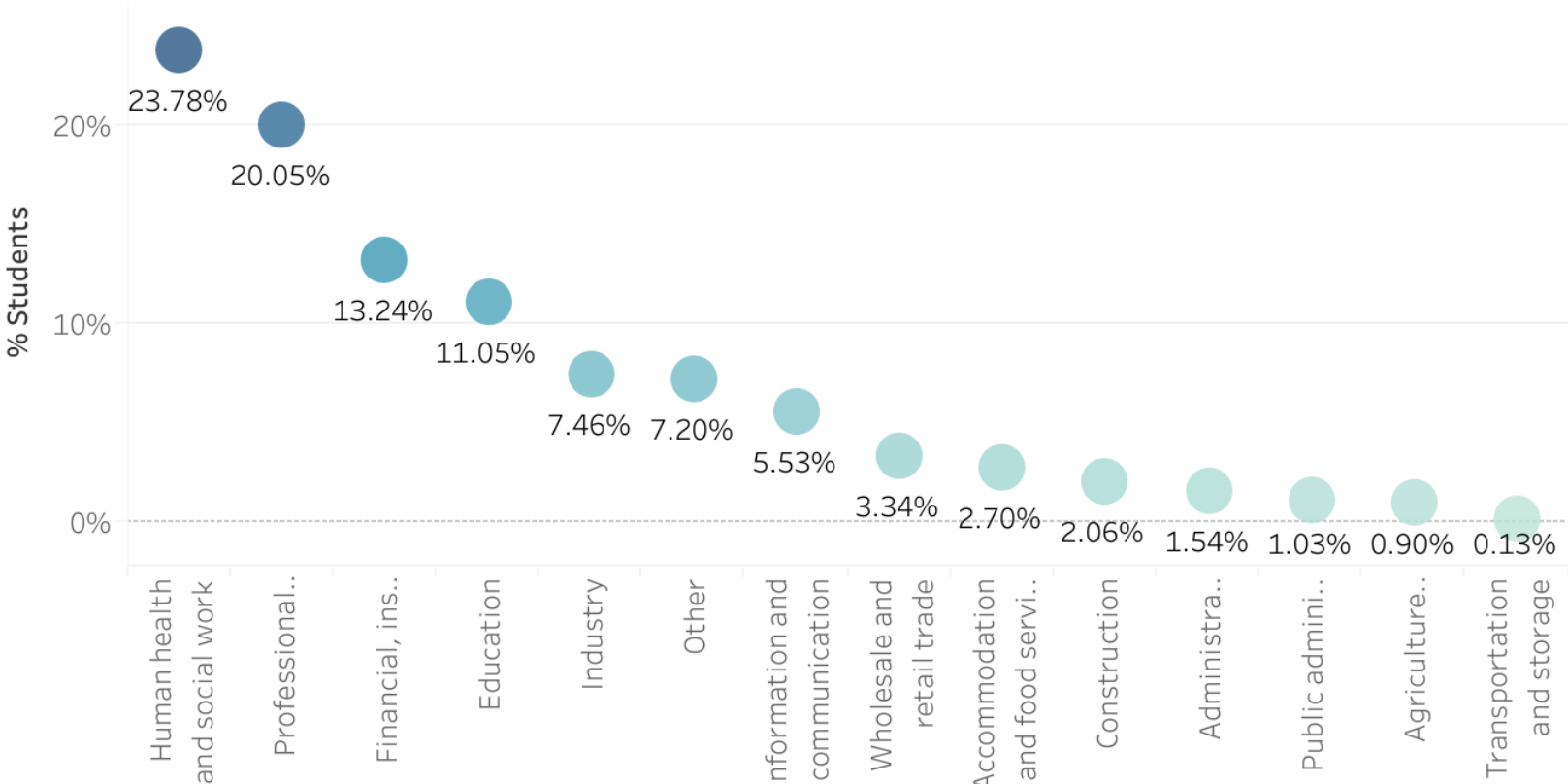|				
Industry	43.10%		Professional, Scientific, and Technical	28.20%
Human Health and Social Work	40%		Information and Communications	27.90%
Education	30.30%		Wholesale and Retail Trade	27%

Students' Employment Type

Self-employed/freelance/starting up own business

An Employee

Students' Industrial Sectors Placements

23.78% — Human health and social work
20.05% — Professional..
13.24% — Financial, ins..
11.05% — Education
7.46% — Industry
7.20% — Other
5.53% — Information and communication
3.34% — Wholesale and retail trade
2.70% — Accommodation and food servi..
2.06% — Construction
1.54% — Administra..
1.03% — Public admini..
0.90% — Agriculture..
0.13% — Transportation and storage

Snapshot of Salaries by Industrial Sectors

Human h.. / Professio.. / Financial.. / Education / Industry / Other / Informati.. / Wholesal.. / Accommo.. / Construc.. / Administ.. / Public ad.. / Agricultu.. / Transpor..

Job-Titles Held by Students

Nurse

Job Source

Find Out About Job

Another institution source (e.g. ..	5.17%
Employer website	7.62%
I already worked there (includin..	18.99%
Media (e.g. newspaper/magazin..	4.26%
My institution's careers service	10.85%
Other	8.91%
Personal contacts, including fa..	13.31%
Recruitment site (e.g. job search..	20.41%
Social media/professional netw..	9.43%
Speculative application	1.03%

SNAPSHOT OF THE VISUALISATION DASHBOARD TOP-LINE INSIGHTS

EMPLOYMENT OUTCOMES OVERVIEW

- **What are the Employment Types?**

GRADUATE INTERNSHIP
7.14%

SELF-EMPLOYED/FREELANCE/
STARTING UP YOUR OWN BUSINESS
2.1%
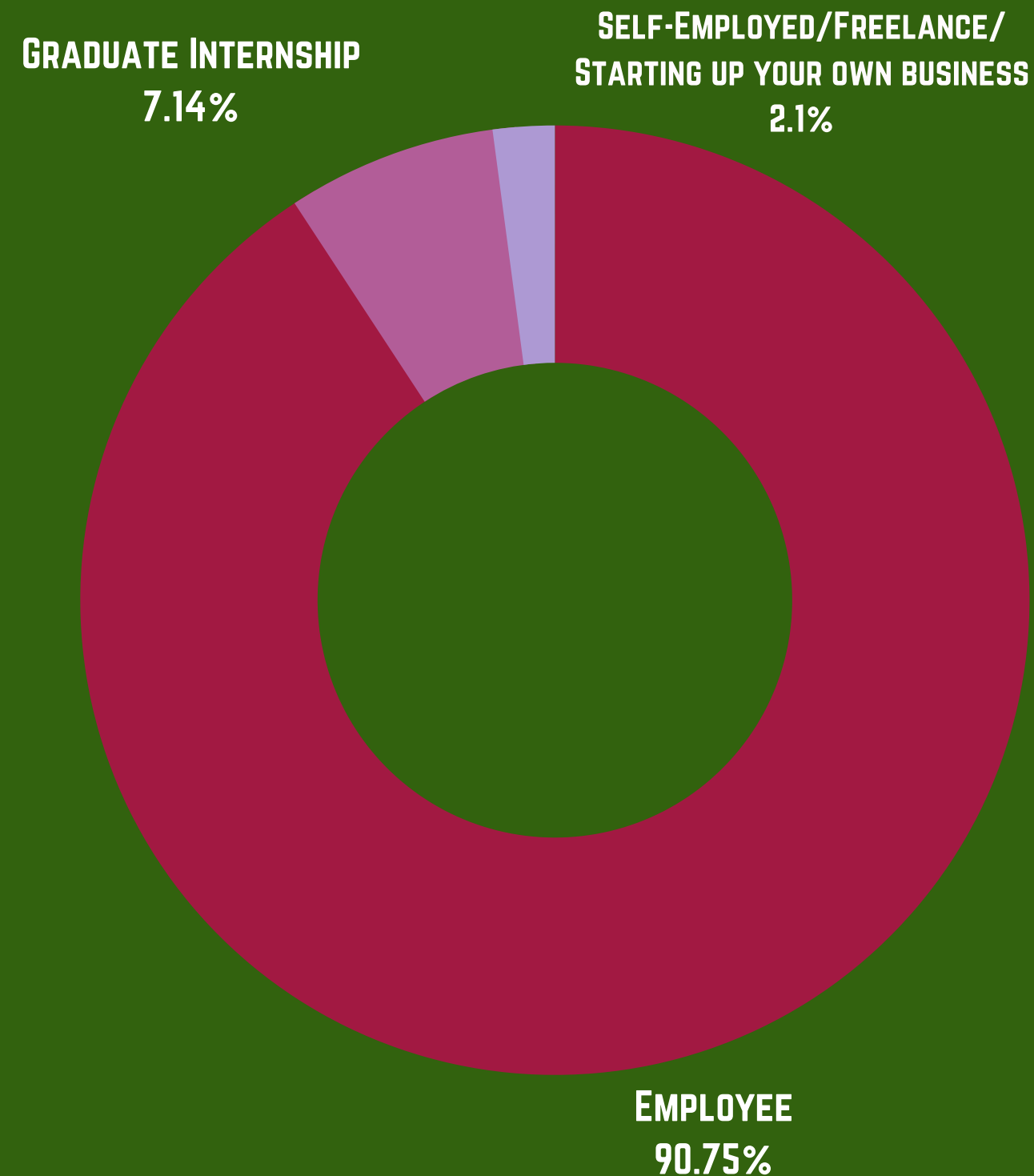
EMPLOYEE
90.75%

90% of the students are working as an **employee,** whereas just **7%** are enrolled in **graduate internships or placements.** The majority of students who are on graduate internships are majorly in the Wholesale and Retail Trade Sector (24.2%), and least in the Agriculture, Forestry and Fishing Sector (3.03%).
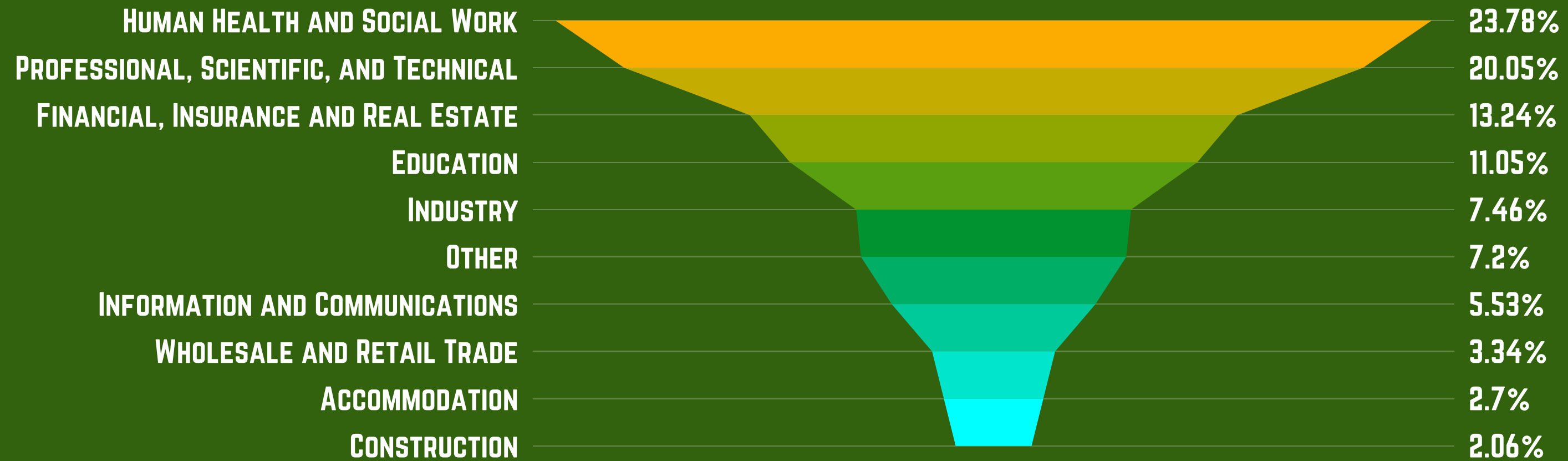
Only **2%** of students are **self-employed or work as freelancers. The majority of students who are self-employed or freelancing or have started their businesses have done so majorly in the Human Health and Social Work (42.9%), and information and Communication sector (14.3%). They are working as speech and language therapists, solicitors, dentists, gallery assistants and marketing consultants.**

EMPLOYMENT OUTCOMES OVERVIEW
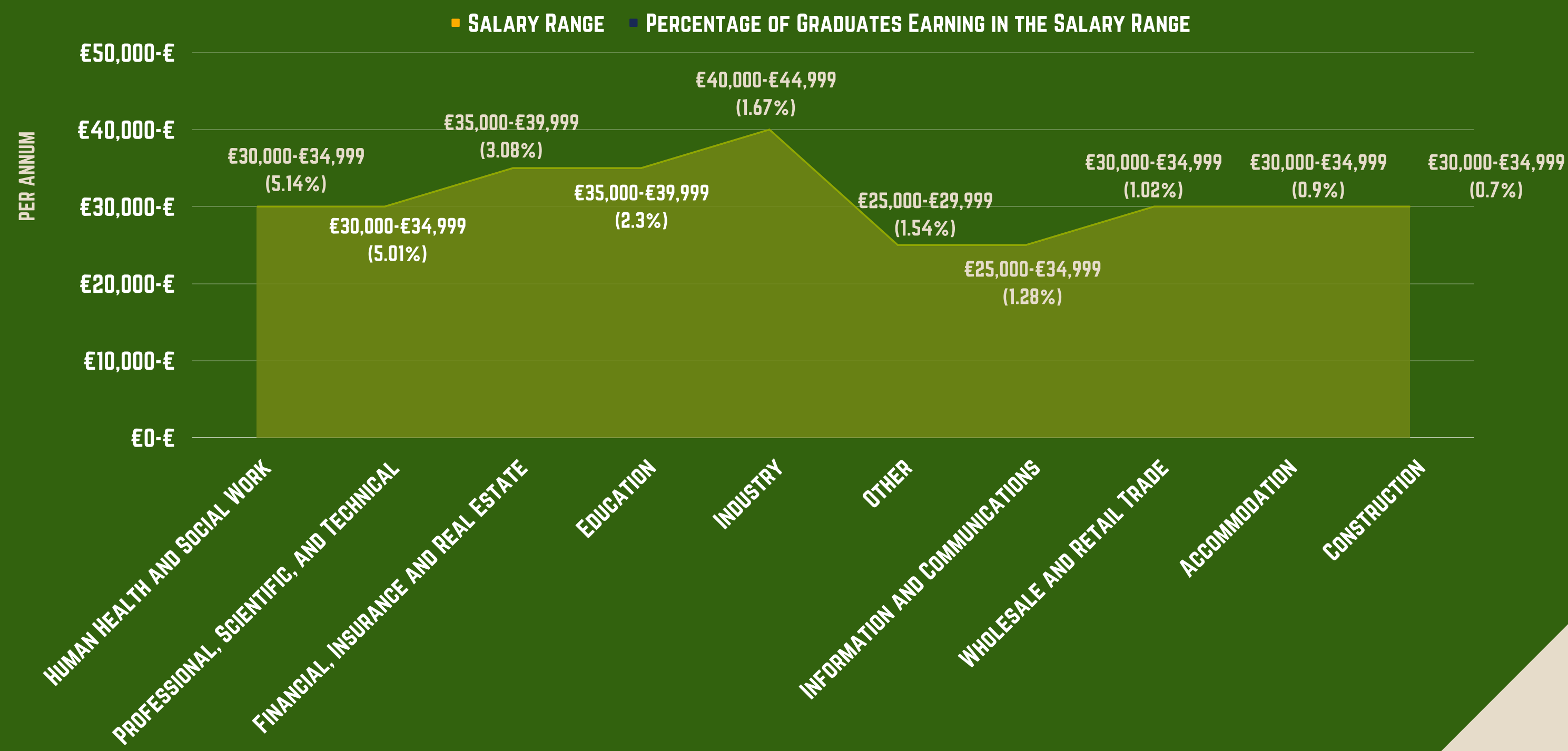
- **Students' Industrial Placement Sectors?**

Sector	Percentage
Human Health and Social Work	23.78%
Professional, Scientific, and Technical	20.05%
Financial, Insurance and Real Estate	13.24%
Education	11.05%
Industry	7.46%
Other	7.2%
Information and Communications	5.53%
Wholesale and Retail Trade	3.34%
Accommodation	2.7%
Construction	2.06%

Around **24%** of students are employed in the **'Human Health and Social Work'** industry, while around **20%** are employed in **Professional, Technical, and Scientific**. Students working in **finance, real estate, and insurance** make up **13%** of the total, with the rest working in sectors like **Education, ICT, Wholesale and Retail Trade, and Construction**.

EMPLOYMENT OUTCOMES OVERVIEW

- **Top Earning Buckets by Industrial Sectors?**

■ Salary Range ■ Percentage of Graduates Earning in the Salary Range

PER ANNUM

€50,000-€
€40,000-€
€30,000-€
€20,000-€
€10,000-€
€0-€

€30,000-€34,999 (5.14%) — HUMAN HEALTH AND SOCIAL WORK
€30,000-€34,999 (5.01%) — PROFESSIONAL, SCIENTIFIC, AND TECHNICAL
€35,000-€39,999 (3.08%) — FINANCIAL, INSURANCE AND REAL ESTATE
€35,000-€39,999 (2.3%) — EDUCATION
€40,000-€44,999 (1.67%) — INDUSTRY
€25,000-€29,999 (1.54%) — OTHER
€25,000-€34,999 (1.28%) — INFORMATION AND COMMUNICATIONS
€30,000-€34,999 (1.02%) — WHOLESALE AND RETAIL TRADE
€30,000-€34,999 (0.9%) — ACCOMMODATION
€30,000-€34,999 (0.7%) — CONSTRUCTION
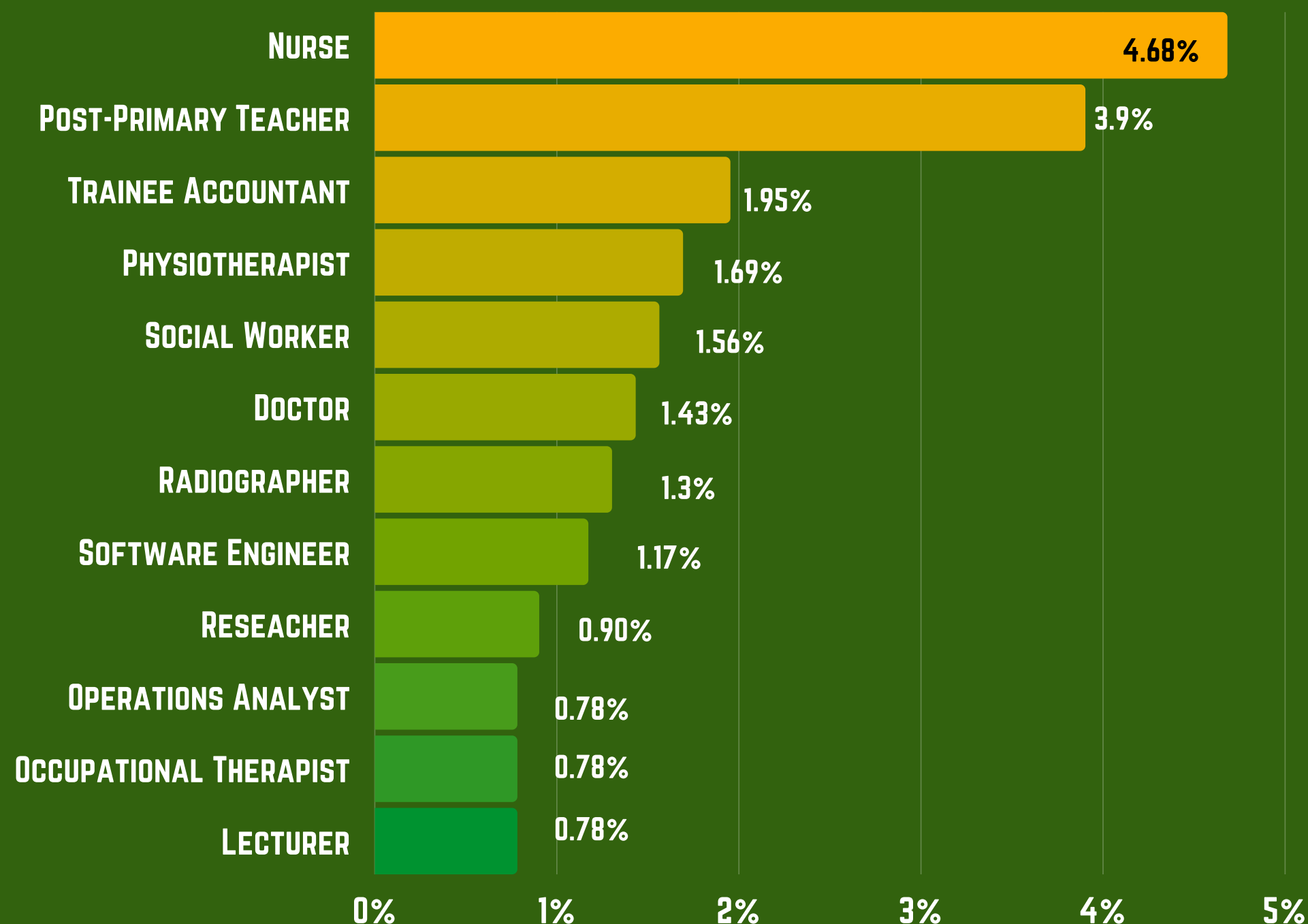
EMPLOYMENT OUTCOMES OVERVIEW

- **Salaries/Estimated Earnings by Industrial Sectors?**

  - The largest chunk (**23.7%**) of the graduates are employed in **Human Health and Social Work,** with the highest share (**5.1%**) of the graduates earning between **€30,000-€34,999 per year**. The second-largest share is that **5%** of students have an annual income of more than **€50,000**, and **4.2%** of the graduates earn **€35,000-€39,999 per year.**

  - **20%** of the graduates are employed in **Professional, Scientific, and Technological sectors** making it the second biggest sector to employ the graduates, with the biggest subsection (**5.1%**) of students earning **€30,000-€34,999 per year** and **3.9%** earning **€35,000-€39,999 per year**. **2.9%** of students have an annual income of more than **€50,000**.

  - **13.2%** of the students are working in the **Financial, Insurance, and Real Estate Industry sector** making it the third biggest employability sector. **4.3%** of students employed in this industry earn between **€25,000 and €29,999 per year**, while **2.6 per cent** earn between **€30,000 and €34,999 per year**. Only about **1 per cent** of students earn more than **€50,000** per year.

  - Other than these top-level insights, **the majority of the students fall in the earnings range of €30,000 and €39,999 per annum, with the overall median salary of approximately €37,500 per annum.**

EMPLOYMENT OUTCOMES OVERVIEW

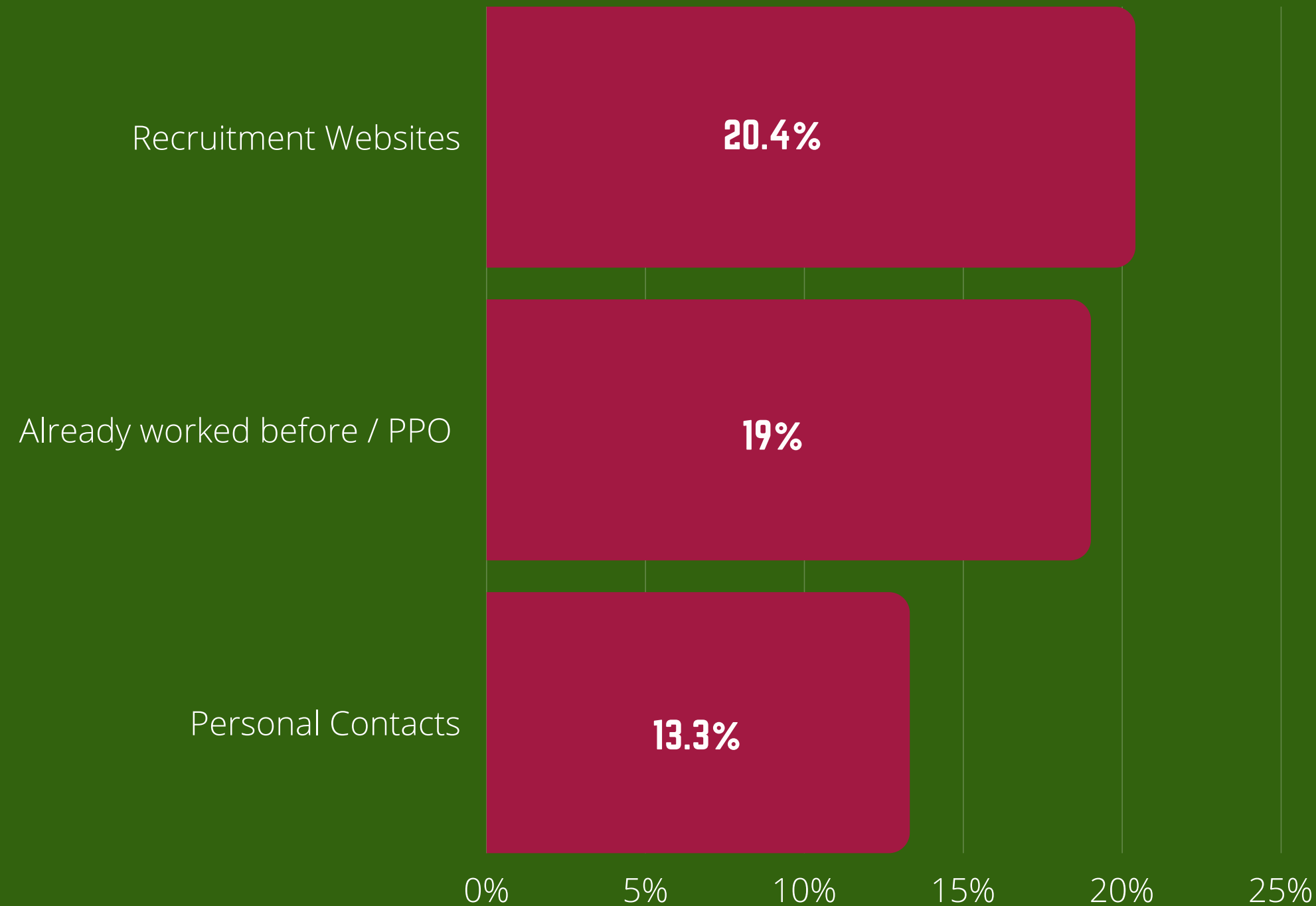- **What are the overall Job Titles held by the students?**

Bar chart: Overall job titles held by students
- Nurse — 4.68%
- Post-Primary Teacher — 3.9%
- Trainee Accountant — 1.95%
- Physiotherapist — 1.69%
- Social Worker — 1.56%
- Doctor — 1.43%
- Radiographer — 1.3%
- Software Engineer — 1.17%
- Reseacher — 0.90%
- Operations Analyst — 0.78%
- Occupational Therapist — 0.78%
- Lecturer — 0.78%

(x-axis: 0% to 5%)

- **Nurse** (**4.68%**) and **Post-Primary teachers** (**3.9%**) are the **top job title** held by the students.

- In the **Human Health and Social Work Sector**, which is the largest employment sector:
  - **19%** of students work as nurses,
  - **7%** as physiotherapists,
  - **6.5 per cent** as social workers, and
  - roughly **6%** as doctors.

- In the **Professional, Scientific, and Technical sectors** which is the second-largest employment sector as per the GOS:
  - Process Engineers employ **3.2 per cent** of students,
  - While Software Engineers and Engineers employ **2.6 per cent**.

- In the **Financial, Insurance and Real Estate sector:**
  - Trainee Accountant (**13.7%**), Trainee Actuary (**7.8%**), and Operations Analyst (**3.9%**) are the top three job titles held by students
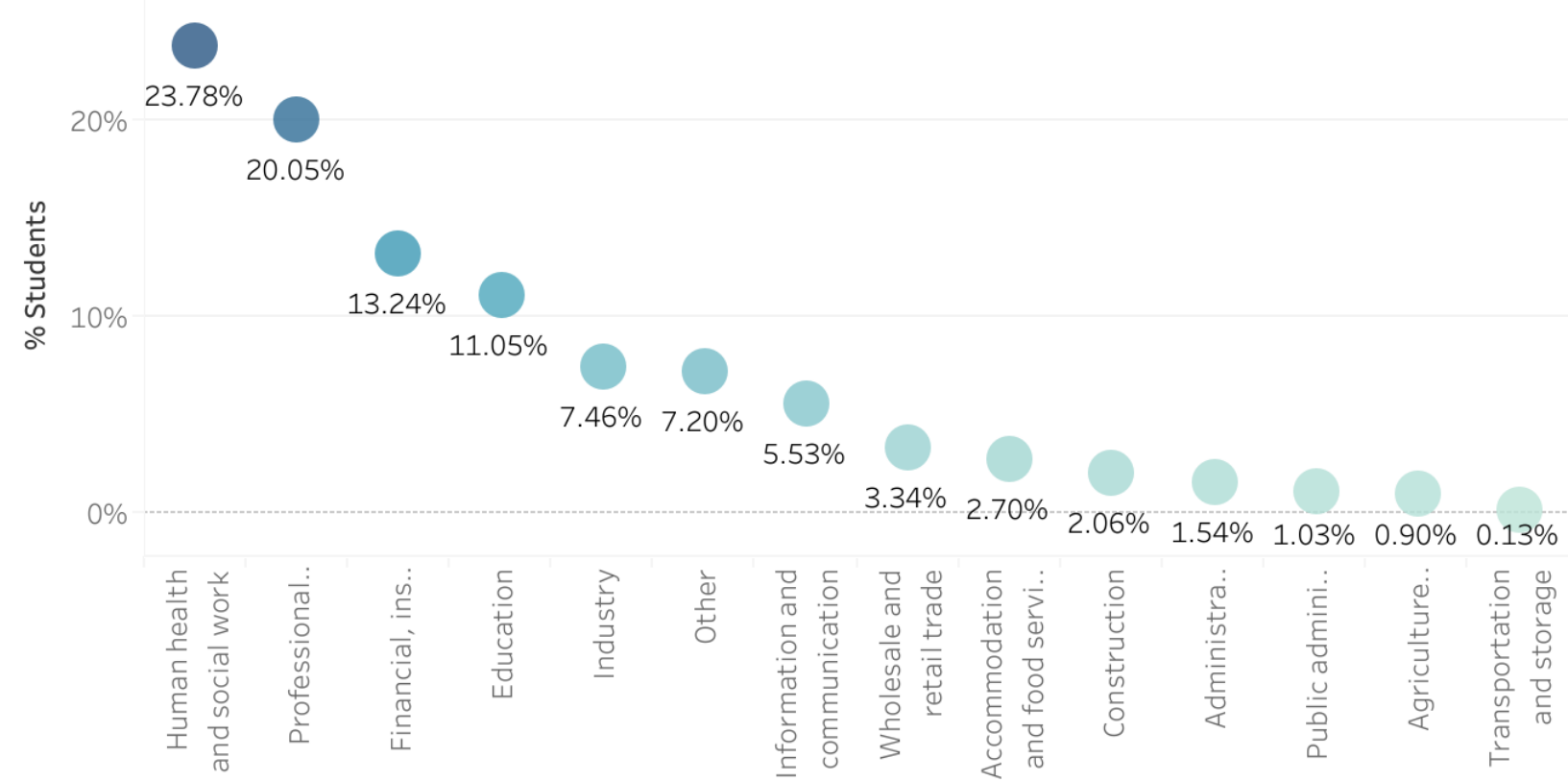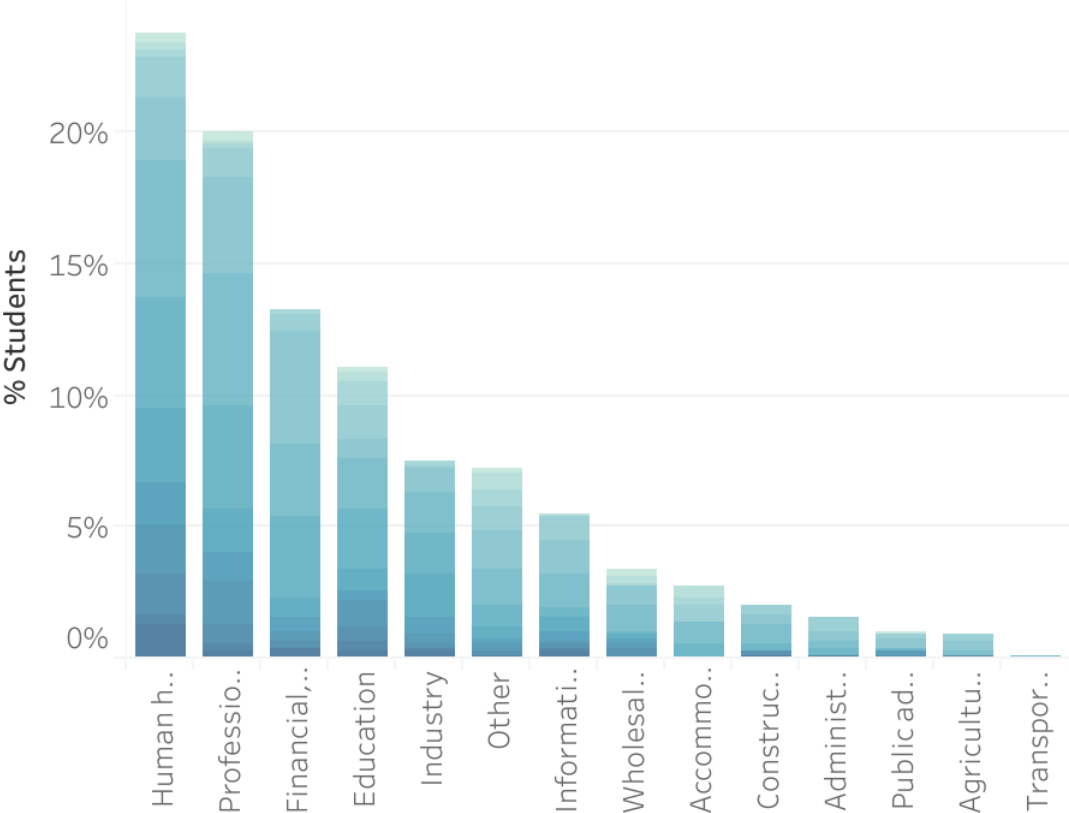
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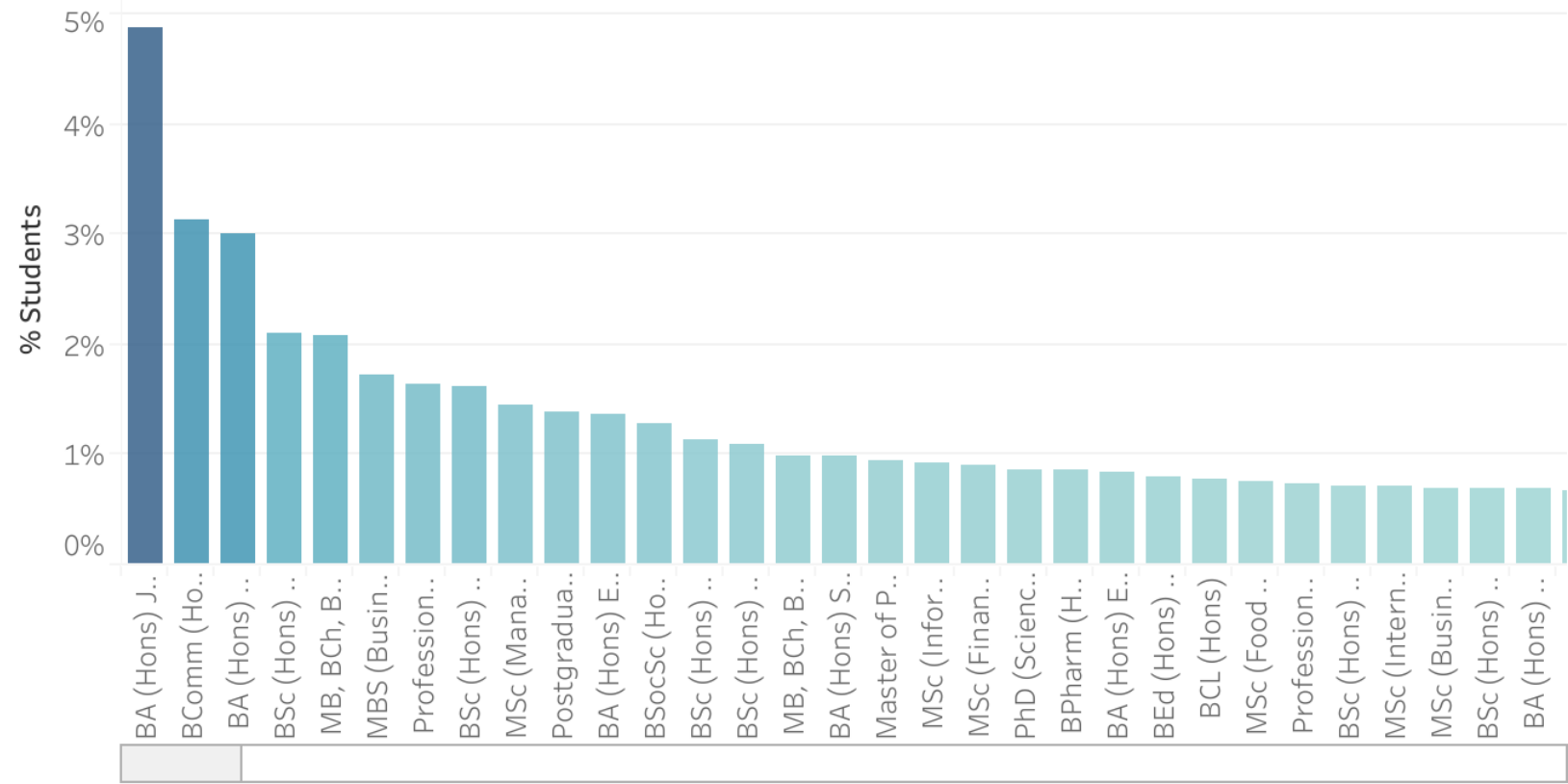
UCC Career Services

- **What are the occupation boards?**

The majority of students work in a **professional capacity**, but students also work in **Associate Professional and Technical Occupations, Sales and Customer Service Occupations, Caring, Leisure, and Other Service Occupations.**

Occupation	Percentage
Professional Occupations	63.9%
Associate Professional and Technical Occupations	11.1%
Sales and Customer Services Occupation	7.3%
Managers, Directors and Senior Officials	6.3%
Caring, Leisure and Other Service Occupations	4.4%
Administrative and Secretarial Occupations	2.6%
Postdoctoral Researchers	2.3%
Process, Plant and Machine Operatives	0.89%
Skilled Trade Occupations	0.83%
Elementary Occupations	0.34%
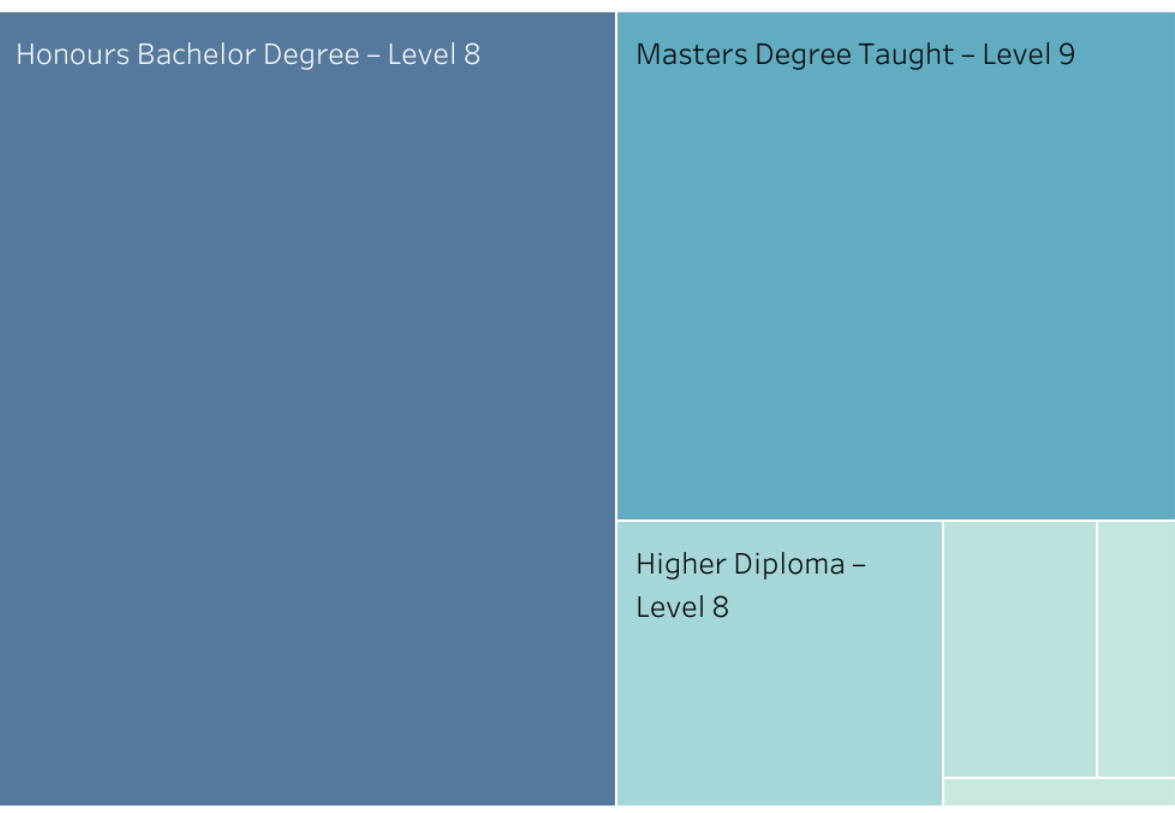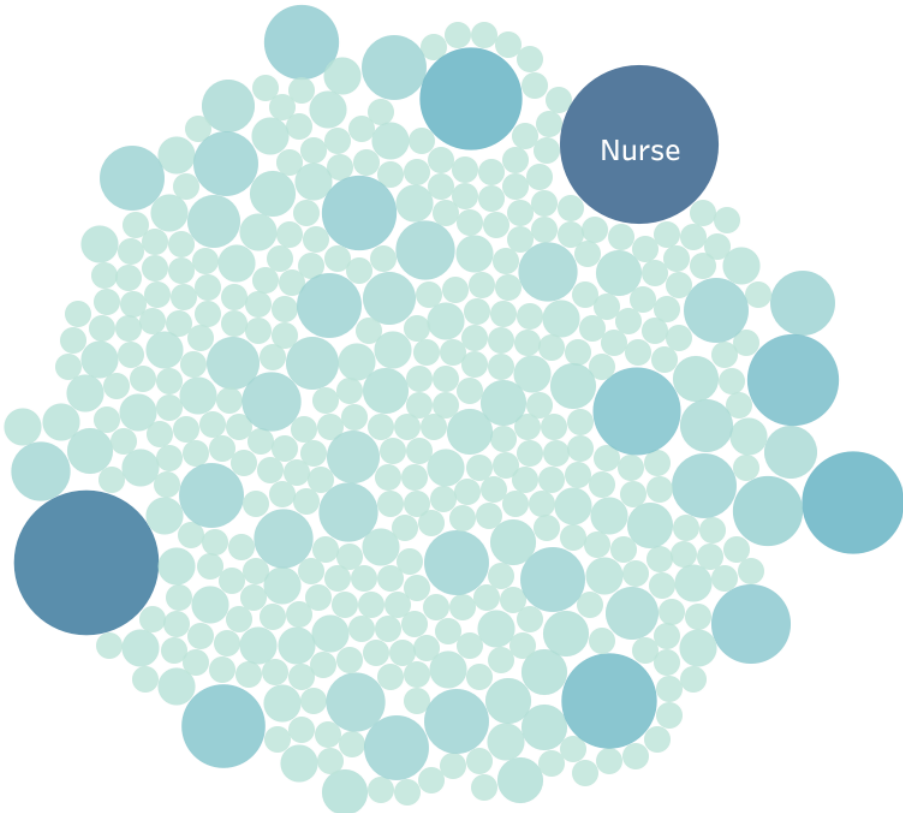
DETAILS ABOUT THE JOB TYPE

- **What are the contract types on which the students are working?**
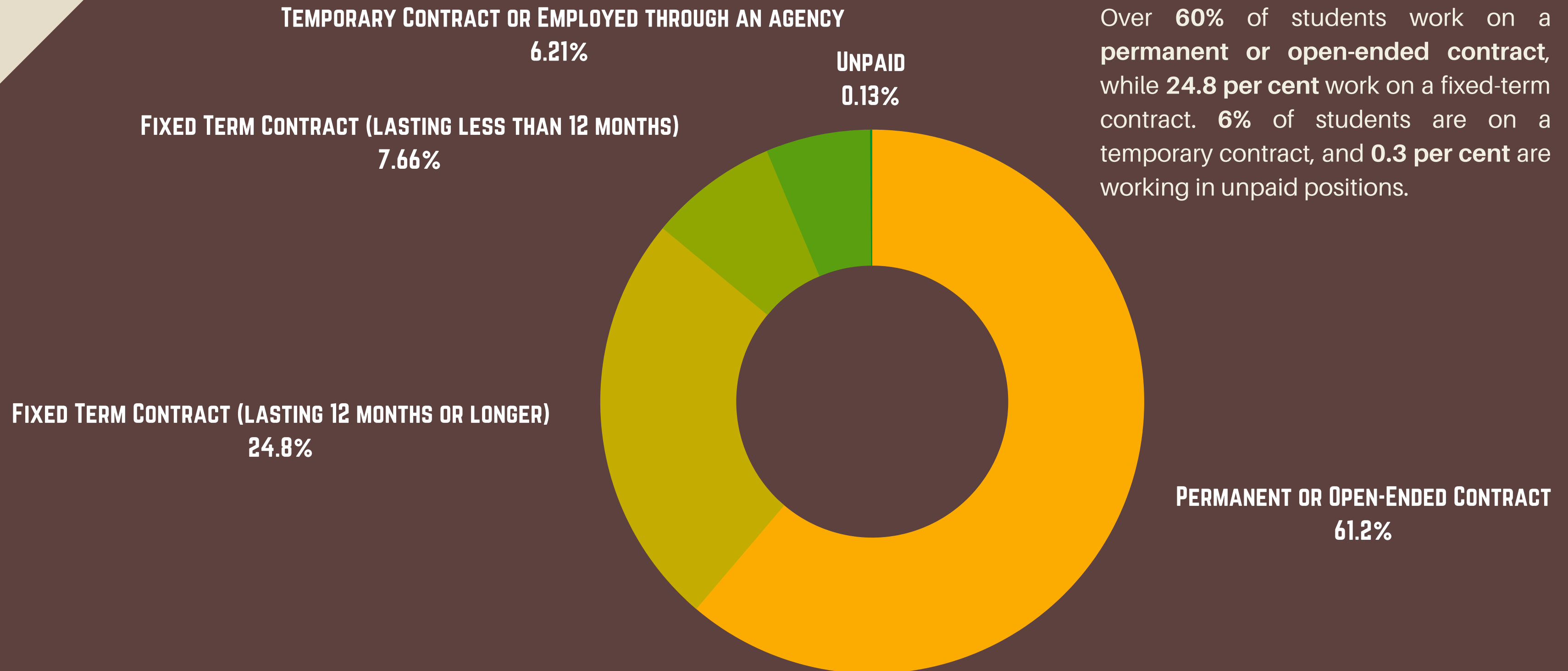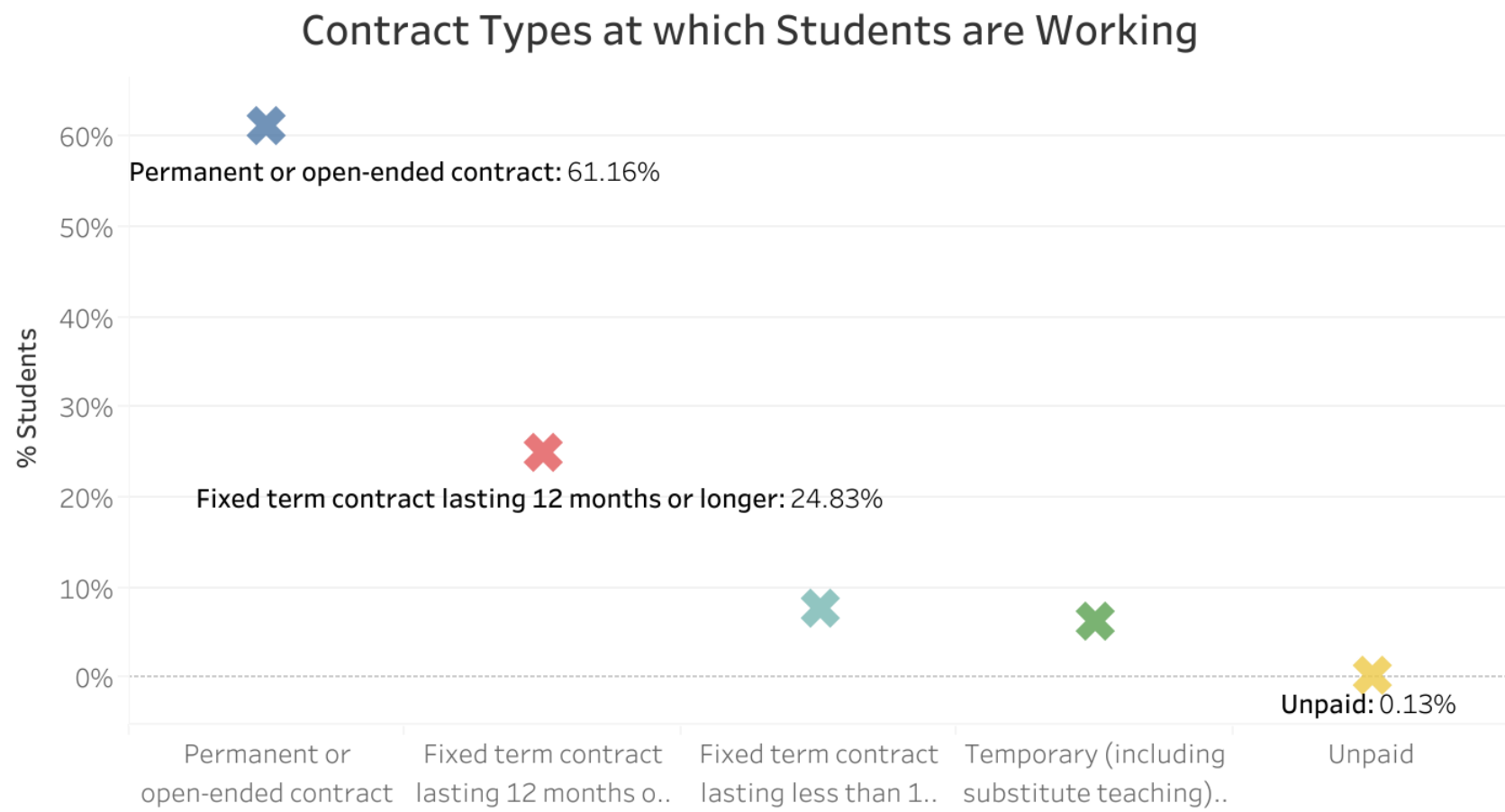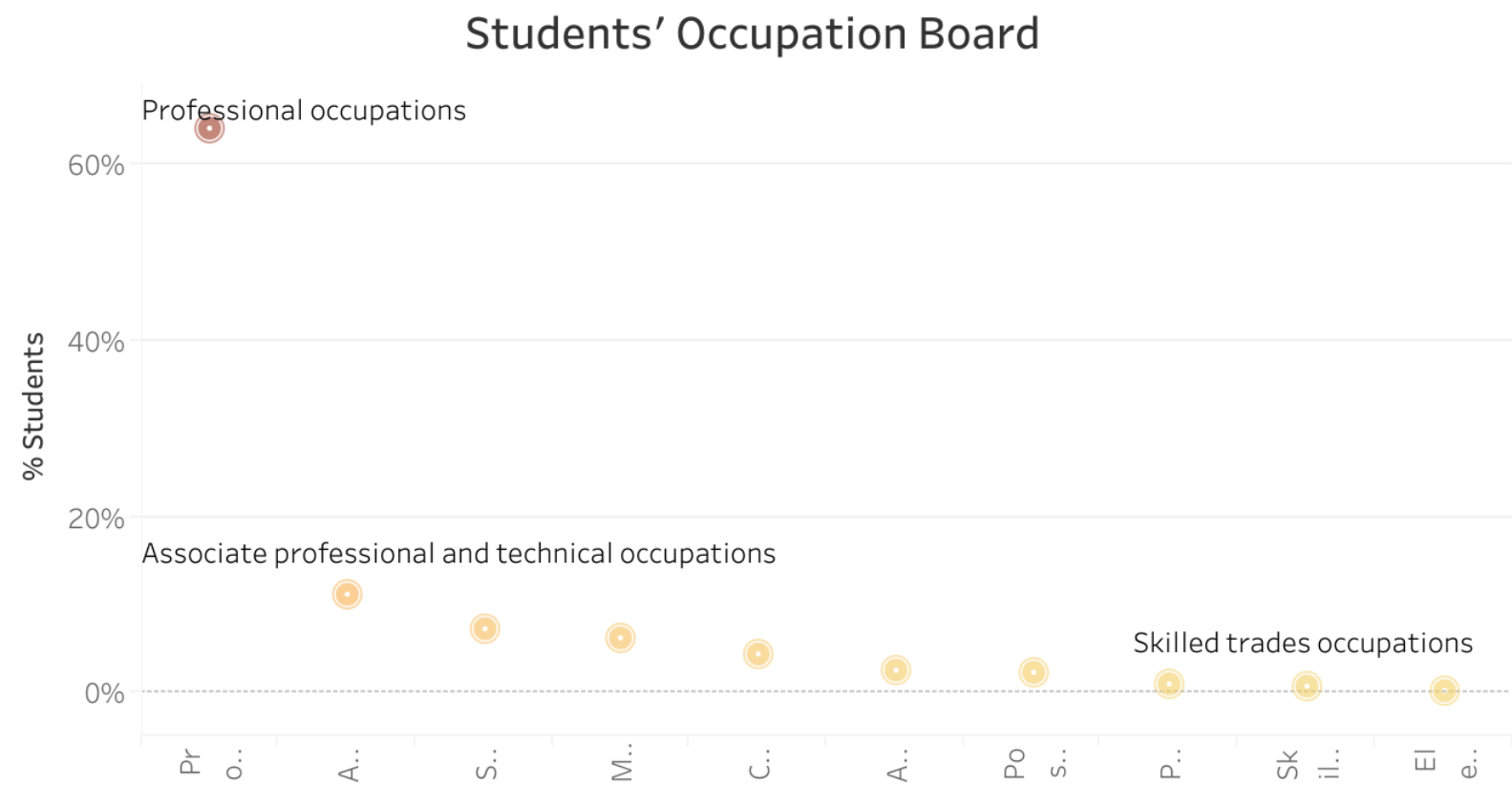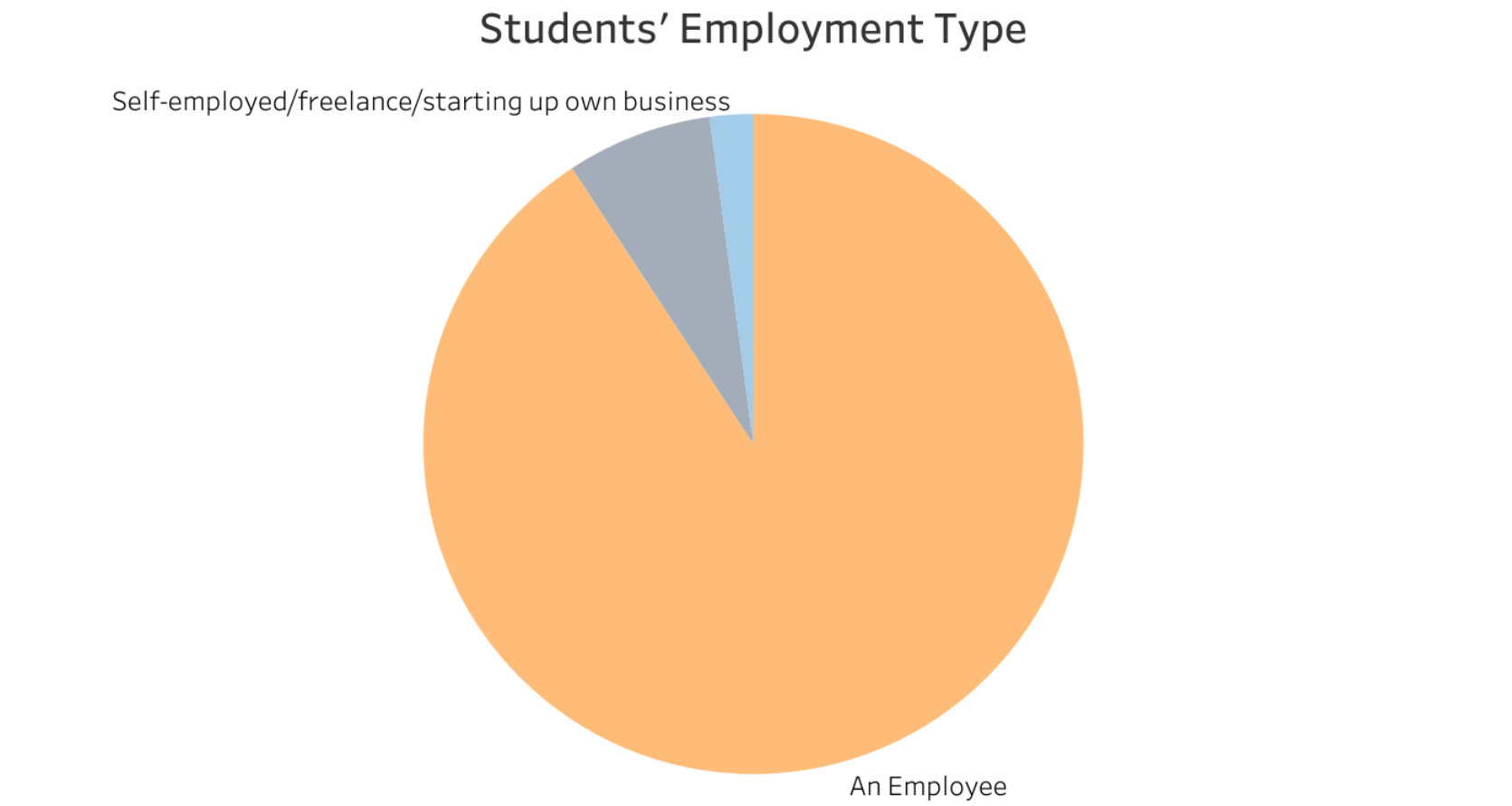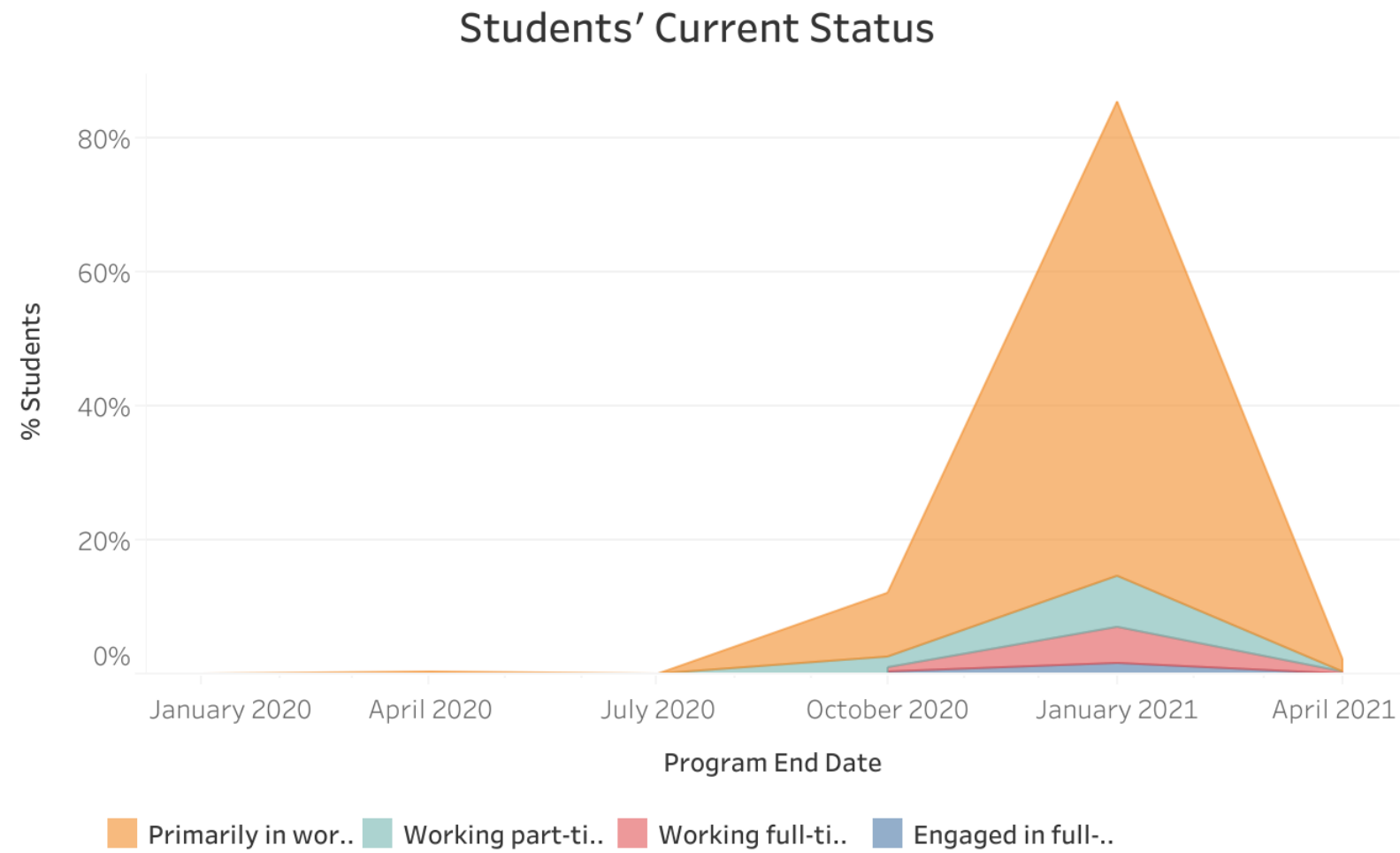
Temporary Contract or Employed through an agency
6.21%

Unpaid
0.13%

Fixed Term Contract (lasting less than 12 months)
7.66%

Over **60%** of students work on a **permanent or open-ended contract**, while **24.8 per cent** work on a fixed-term contract. **6%** of students are on a temporary contract, and **0.3 per cent** are working in unpaid positions.

Fixed Term Contract (lasting 12 months or longer)
24.8%

Permanent or Open-Ended Contract
61.2%

SNAPSHOT OF THE VISUALISATION DASHBOARD TOP-LINE INSIGHTS

AN ANALYSIS OF THE CAREER TRAJECTORY OF THE STUDENTS BASED ON THE PROGRAMME THEY COMPLETED

- **Are alumni employed in fields related to their program of study?**

  - As per the Graduate Outcomes Survey Data of 2020, the **majority of the students opted for BA Joint Honours Degree** (**Level 8**). The graduates of this degree work mostly in the **Education sector** (**30%**), followed by the **Financial, Insurance, and Real-Estate sectors** (**20%**), and the **Information and Communication Sector** (**20%**). The other three sectors in which the graduates are working are **Accommodation and Food Services** (**10%**), **Professional Scientific and Technical sector** (**10%**). In these sectors, the top job titles of the graduates are:
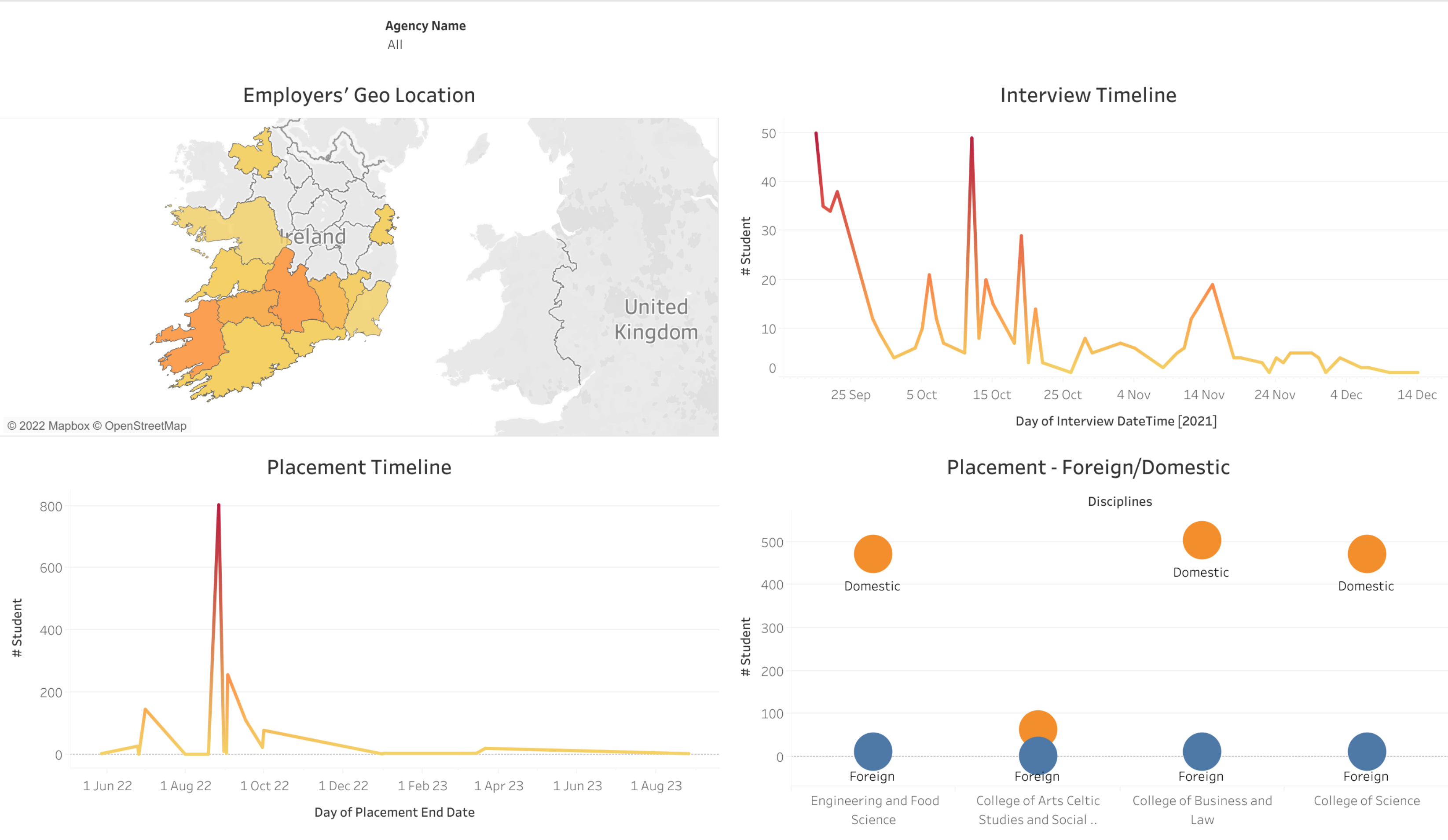   - *Supervisors (20%),*
    - *Contractors (10%), Customer Service Administrators and Advisors (10%), Garda (10%), Assistant Managers (10%), Trainee Accountants (10%), ESL Teachers (10%), and Media Analysts (10%).*

  - Students who opted for **B.Comm. Honours Degree** (**Level 8**) which is the **second most-opted course** amongst the students are majorly working in the **Financial, Insurance and Real-Estate sector** (**35.7%**), and **Industry** (**14.3%**) as:
    - *Trainee Accountants (15.4%),*
    - *Commodities Analyst (7.7%), Purchasing Administrators (7.7%), HR Administrators (7.7%), Consulting Analysts (7.7%), Demand Planning Analyst (7.7%), Custody Associates (7.7%), Area Managers (7.7%), Accounts Payable and Payroll Administrator (7.7%), Marketing and Sponsorship (7.7%), Commodities Analyst (7.7%), Billing Specialists (7.7%), and Strategy Consultants (7.7%).*

AN ANALYSIS OF THE CAREER TRAJECTORY OF THE STUDENTS BASED ON THE PROGRAMME THEY COMPLETED

- **Are alumni employed in fields related to their program of study?**

  - **40%** of the total students who enrolled in **B.A. Honours Degree** (**Level 8**) which is the **third most-opted course** are working in the **Wholesale and Retail Trade sector** (**40%**), and **Education, Accommodation and Food Service, Administrative and Support Service Sectors** (**20% each**) and have the following job titles:
    - *Supervisors, Customer Service Advisors, English Tutors, Replenishment Colleagues and Retail Experts (20% each).*

  - Close to **55%** of the total students enrolled in **B.Sc. Honours Degree** (**Level 8**) **in Business Information Systems** work in the **Professional, Scientific, and Technical Sector**, followed by the **Financial, Insurance, and Real-Estate sectors** (**20.8%**), **Industry** (**8.3%**) and **Information and Communication Sector** (**4.2%**). In these sectors, the top job titles of the graduates are quite varied such as:
    - *Technology Risk Consultant, Project Analyst, HR Operations Administrator, Business Development Consultant, Financial Technology Consultant, CTRM Technical Analyst, Application Development Analyst, Associate Cybersecurity Expert, Process Engineer, Business and Technology Architect, Business Analyst, Technology Analyst, Software Developer (4.2% each).*

  - The **Level 8 course MB, BCh, and BAO** which stands at the **fifth position** in terms of enrollment has **100%** of its graduates working in the **Human Health and Social Work sector** as *Doctors (71.4%), and Medical Interns (28.6%)*.

Agency Name
All

Employers' Geo Location

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Interview Timeline

Day of Interview DateTime [2021]

Placement Timeline

Day of Placement End Date

Placement - Foreign/Domestic

Disciplines

SNAPSHOT OF THE VISUALISATION DASHBOARD TOP-LINE INSIGHTS

WORK PLACEMENT STATISTICS

- **Employers' Geo Location, Interviews and Placements Timeline**

  - As per the data, the **majority of the employers were from Ireland**, with an exception of one employer which is based in Massachusetts, United States. Multiple opportunities came from **Kerry Group Tralee RD&A Internship Programme, ABP Cahir, and Analog Devices, Limerick.**

  - The peak of the interviews timeline has been from *20th September to 20th October 2021* with **two major spikes** during this period with a total of **374 distinct interviews** accounting for almost **72% of the total interviews** that happened. Similarly, data indicates that the peak placements will be during the **end of August 2022**.

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Degree Type

All

Major

All

College Distribution

Insights on: College - Degree Type - Major - Graduation Year - Attendee Count

University College Cork	Bachelor's degree	Finance	2023	64
			2024	52
			2022	19
			2021	15
		Commerce	2022	69
			2021	39
			2023	8
			2020	5
			2024	1
		Accounting and Finance	2023	40
			2022	27
			2024	21
			2021	18
		Food Science	2023	33

Students' Graduation Year

Academic Major Distribution

Finance

Academic Major Distribution vs. % of Students

SNAPSHOT OF THE VISUALISATION DASHBOARD TOP-LINE INSIGHTS

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Employer name

All

Employers Geo Location
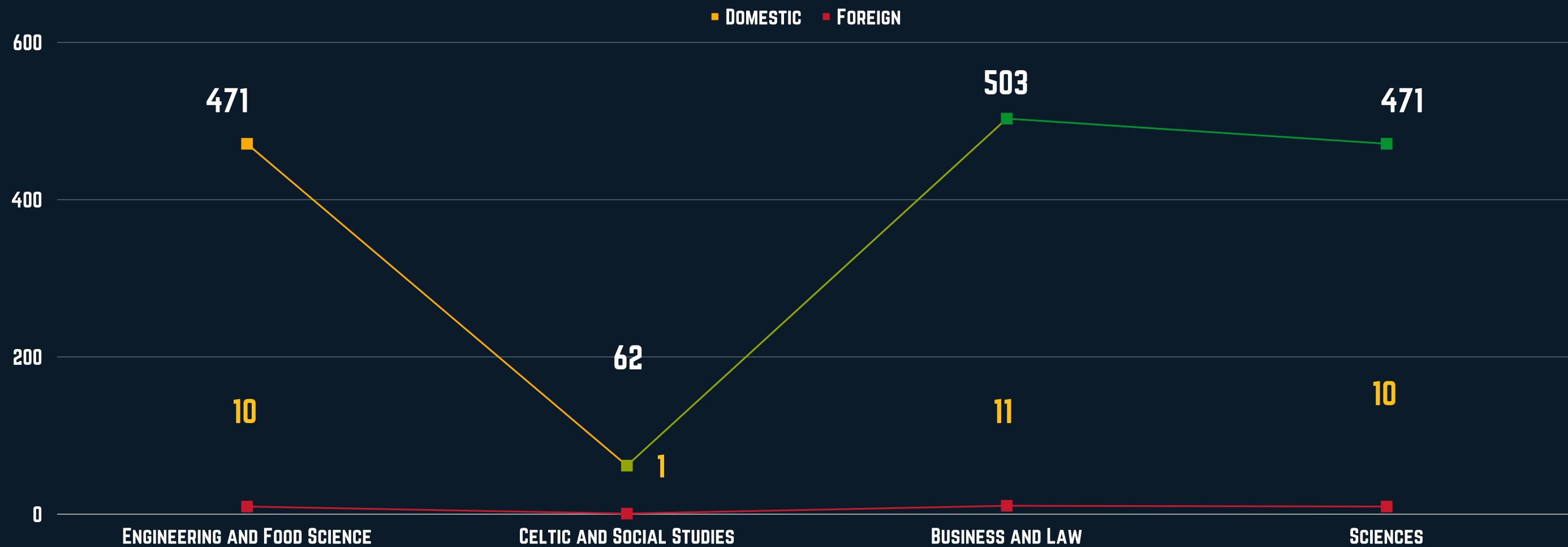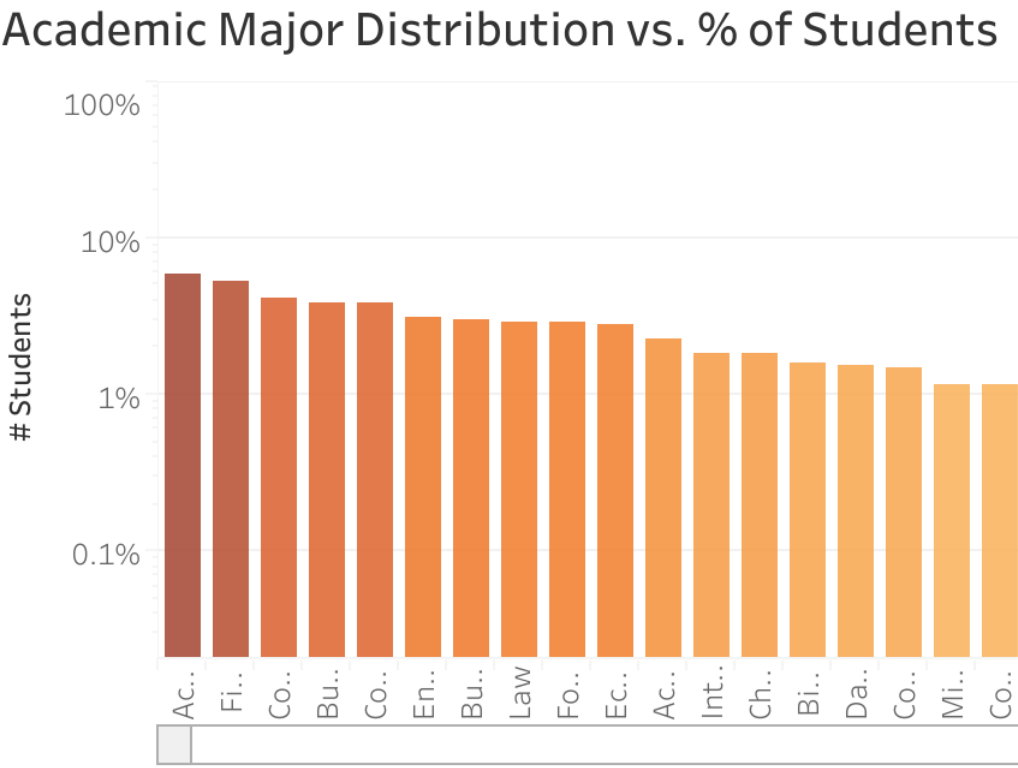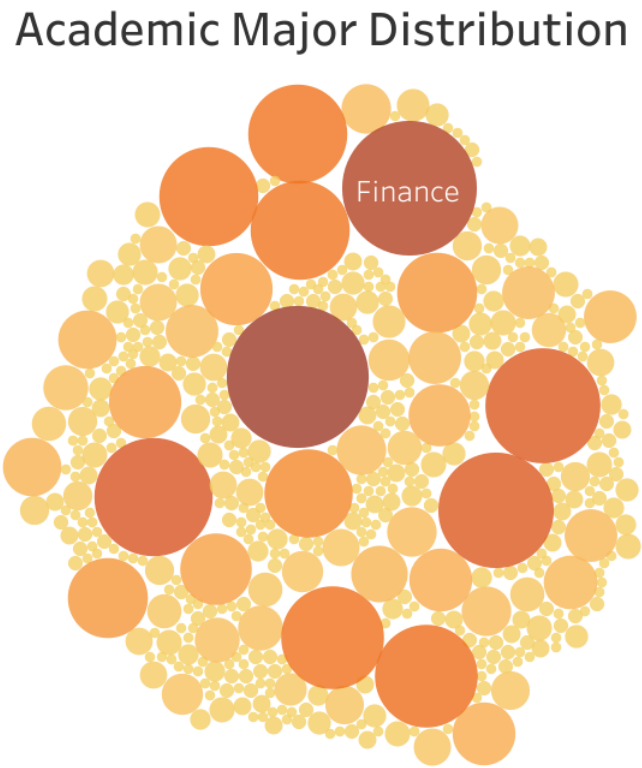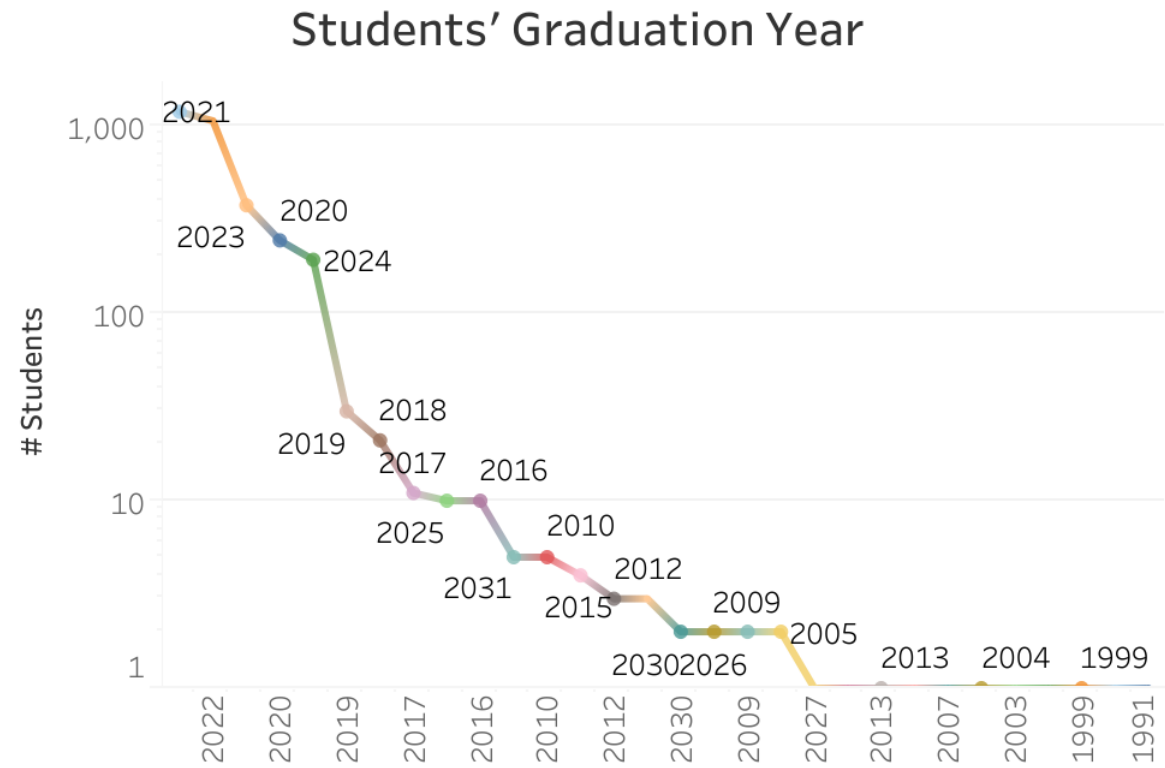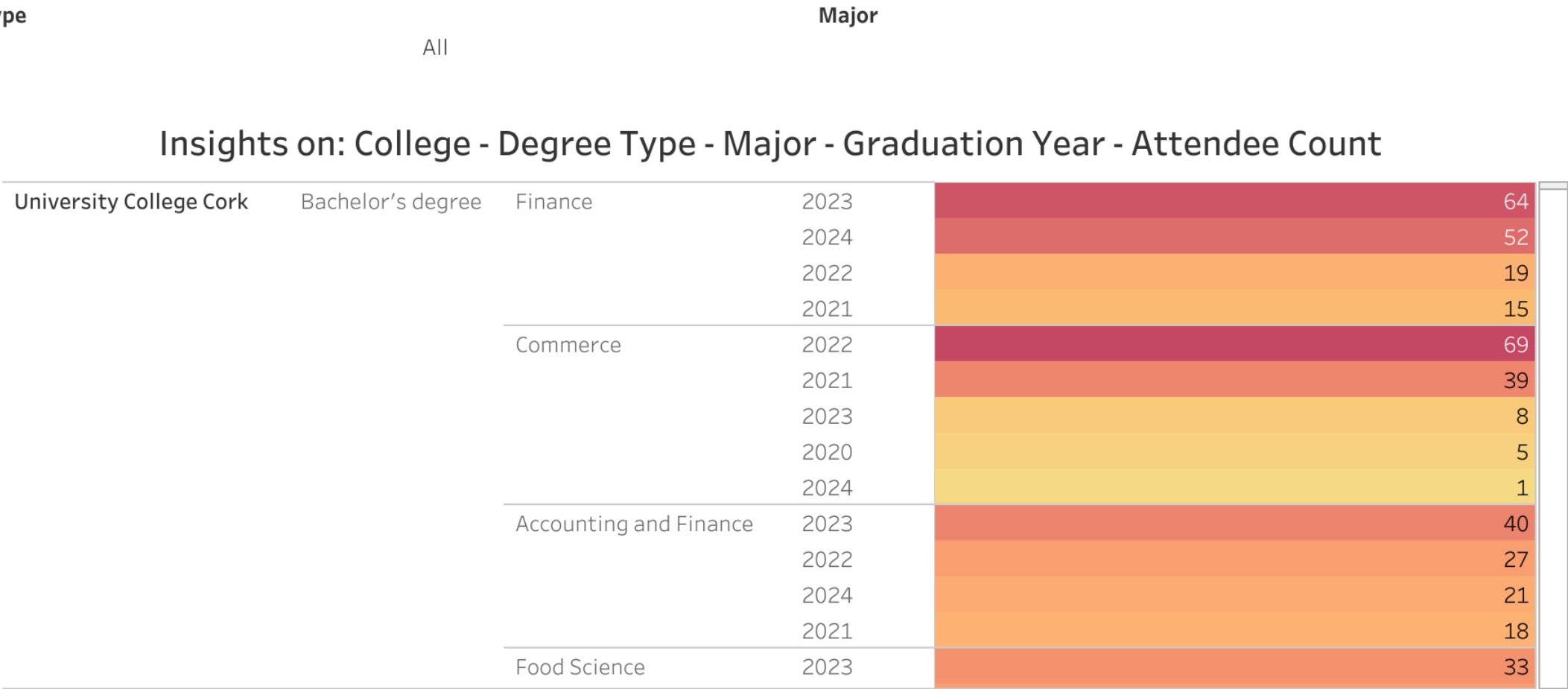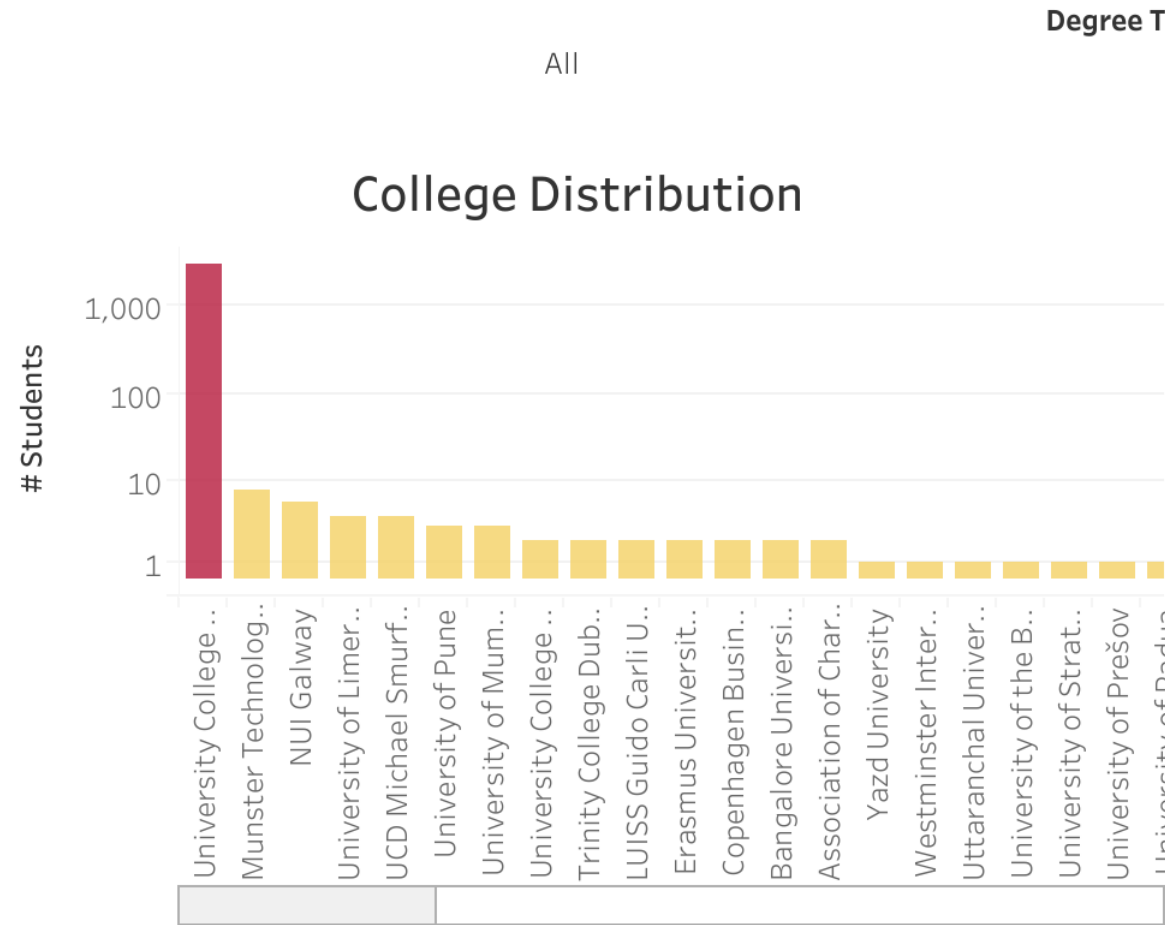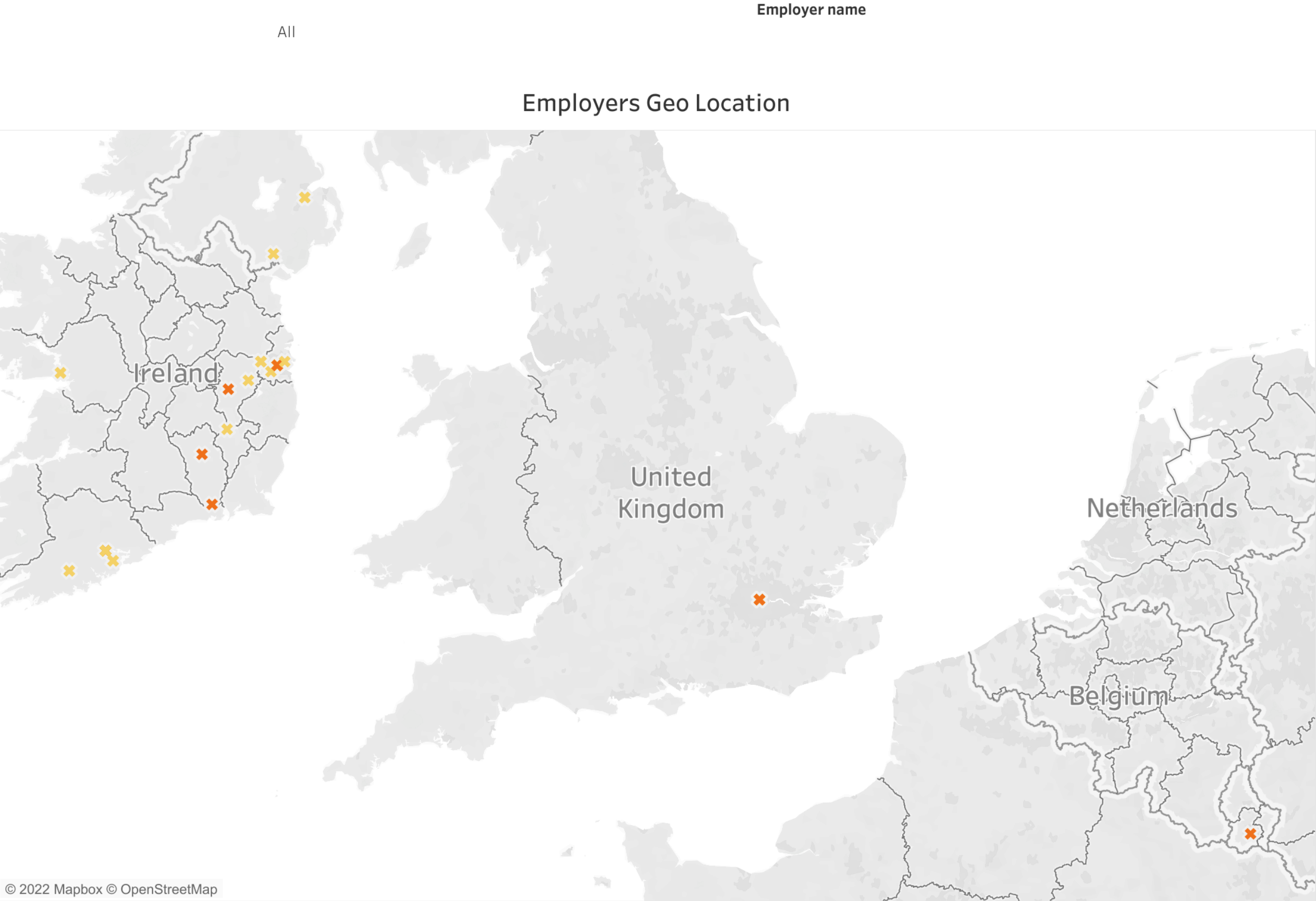
Employers Who Attended The Career Fair

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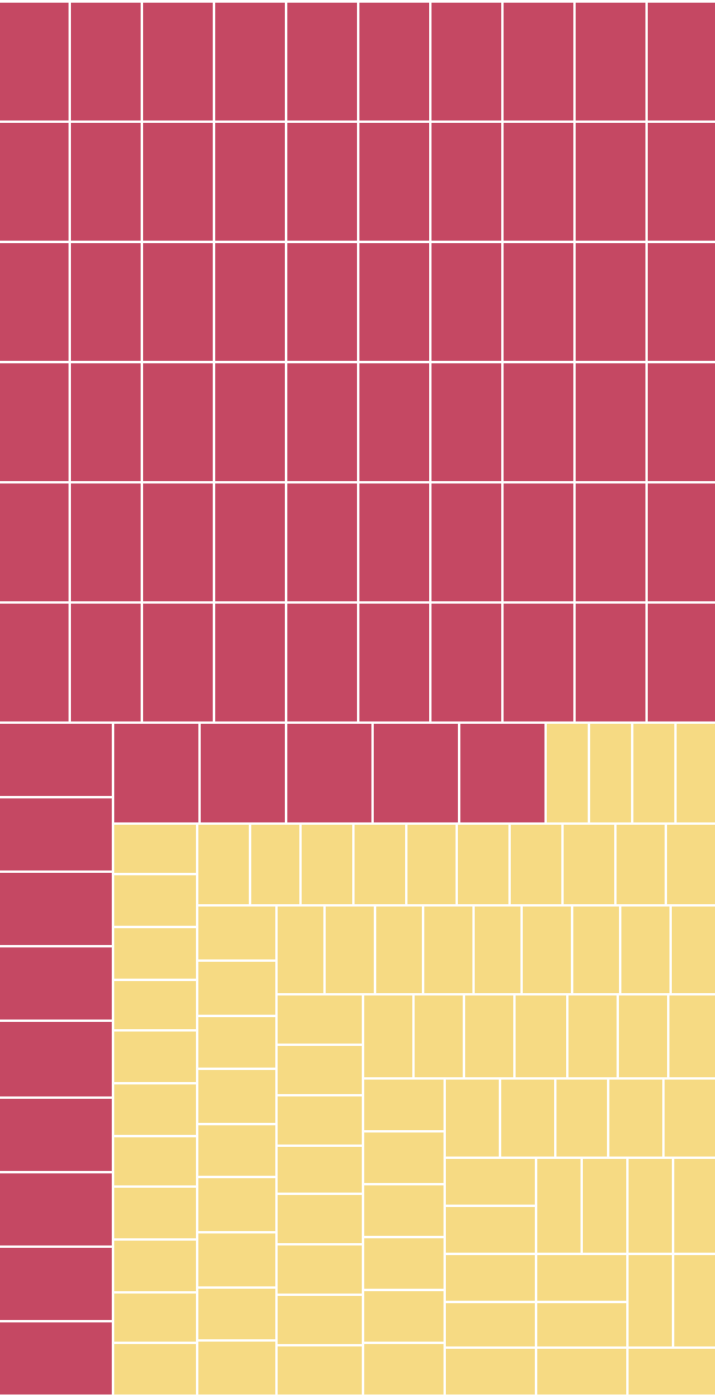
SNAPSHOT OF THE VISUALISATION DASHBOARD TOP-LINE INSIGHTS

RECRUITMENT FAIR DATA INSIGHTS (2020-2021)

- **Which students are interested in next-cycle placements (Graduation Year, Degree Major, Degree Level, Skills)**

A considerable number of students who attended the career fair were from **University College Cork**, but there were also students from **Munster Technology University, NUI Galway, University of Limerick**, and other institutions. Students with the graduation year **2021** were the majority among those who visited the career fair, although a considerable number of students with graduation years **2020, 2022, 2024, 2018, 2019 and 2017** were also present (in decreasing order of the overall numbers of students present). The attendance of the students can be analysed directly proportional to their job-seeking attitude. Therefore, it can be concluded that the **2021 cohort** is actively seeking jobs.

The data tells us that students from varied academic majors (200+) participated in the career fair in **Finance and Accounting, Computer Science, Food Science, Economics, Law, Business Administration and Management, Commerce, Chemistry, Engineering, Business Information Systems, International Business, Data Science, Biotechnology and Microbiology** headed the line. However, the students from other academic majors like Ecology and Environment Sciences, Social Sciences, Public Administration, Medicine and Public Health participated in slim numbers.

In terms of both course majors and graduation year batches, the majority number of students were present from **UCC's Commerce 2022, Finance 2023, Finance 2024, Business Information Systems 2021**, and **Accounting and Finance 2023** batches. From the perspective of higher education degree types, Engineering Doctoral students and Master's students in Accounting and Finance and Business Administration and Management led. From Bachelor's degrees, the trend was consistent with the overall trend with most students participating in Commerce, Accounting and Finance majors.

RECRUITMENT FAIR DATA INSIGHTS (2020-2021)

- **Which employers are hiring the graduates?**

There are a large number of employers who had participated in the Career Fair. **Although a few employers from the United Kingdom, the United States, and Luxembourg attended the career fair, the majority of the recruiters were headquartered in Ireland.** Most of the recruiters are global enterprises, but the data depicts that some the government organisations and educational institutes have also shown interest in hiring students.

The noteworthy employers who participated in the career fair are listed below:

- AIB Group
- Arthur Cox
- DLA Piper
- Edge Hill University
- Irish Government Economic and Evaluation Services (IGEES)
- Matheson
- Abbvie
- Arup
- DPS Group
- EirGrid Group
- Irish Tax Institute
- Mazars Ireland
- Accenture
- Jameson Engineering Graduate Program

- Astellas
- Davy
- DLA Piper
- Eversheds Sutherland
- JRI America
- McCann Fitzgerald
- Bank of Ireland
- Dawn Meats
- FDM Group
- Jaguar Land Rover
- Mott MacDonald
- Aldi Stores Limited
- Boston Scientific
- Dechert LLP

- Fingleton White
- Musgrave
- Amazon
- Cadence Design Systems
- Deloitte Ireland
- First Derivative
- Workday
- Pfizer
- VMWare
- Xilinx
- Nikon
- Glanbia
- Ornua
- Grant Thornton

Did Students Go for Further Studies?

Yes

No
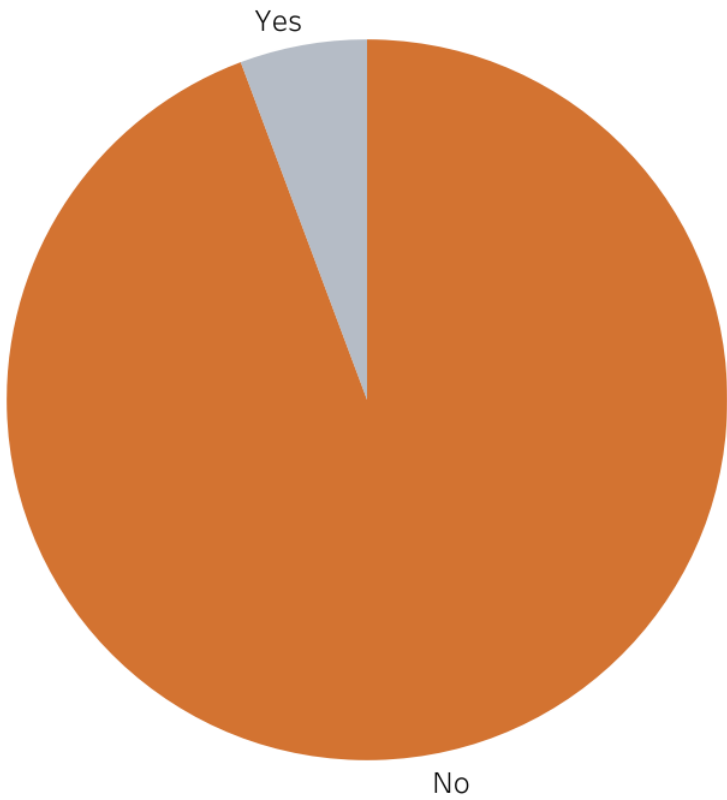
Location of the Higher-Education Institutions

Ireland (incl. Northern Ireland)

Overseas
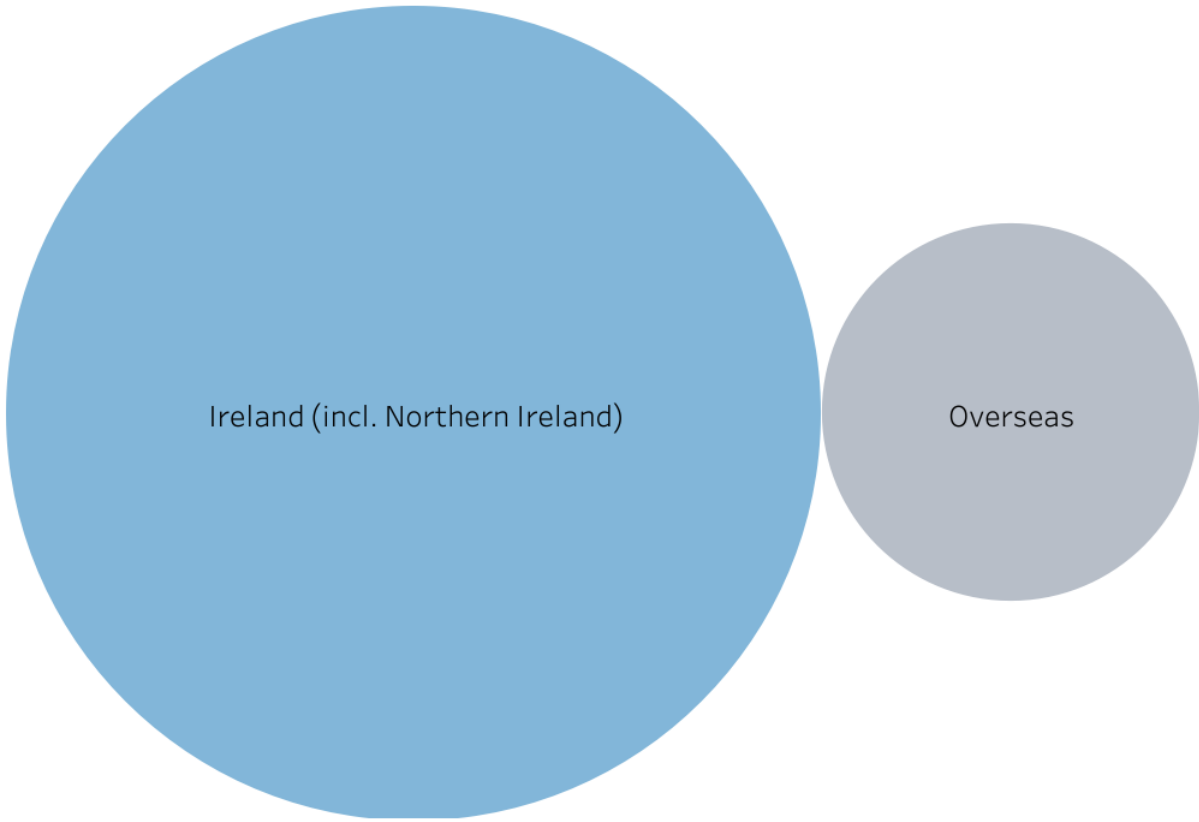
Courses Opted by Students for Further Studies

% Students

3%

2%

1%

0%

Profes.. Profes.. PME Pr.. PME Medici.. MSc Bu.. MSc M.. FE1 Pr.. Cellula.. Digital.. MA in A.. MSc Ec.. MSc Fi.. Aviatio.. Biother.. BMus FE1 Ex.. FE1's MA Ap.. MA in P.. MA Int.. MA Mu.. Master.. MSc Bu.. MSc Co.. MSc Di.. MSc fo.. MSc He.. MSc In.. MSc In.. MSc M..

Why Do Further Study

Because I had enjoyed my first course and wanted to continue studying	6%
Because I was interested in the content of the course	12%
Because it is a requirement for finding and progressing in future employment	17%
I had been unable to find a suitable job	4%
Ongoing professional development	20%
Other reason	2%
To change or improve my career options	23%
To develop a broader or more specialist range of skills or knowledge	15%

SNAPSHOT OF THE VISUALISATION DASHBOARD TOP-LINE INSIGHTS

FURTHER STUDIES

- **What has been the alumni's career trajectory? How many of the graduates opted to go for further studies? Where did they opt to go for their higher studies ?**

Out of the total batch, only **6%** of the batch **opt to go for further studies**, with almost **83%** of the students **choosing their higher education institute in Ireland (including Northern Ireland) leaving the other ~17% higher education destination abroad.** The top courses opted for by the majority of the students as their major for higher studies are listed in order below:

- **Professional Masters of Education (13.5%)**
- **FE1 Preparation Course (2.1%)**
- **MSc. Business Economics (1.9%)**
- **Medicine Graduate Entry (1.3%)**
- **MSc. International Management and Global Business (1.1%)**

The top five most important reasons to put focus on why the majority of the students opt for higher studies are:

- *To change or improve career options*
- *Ongoing professional development*
- *Requirement for finding or progressing in the future employment*
- *Develop a broader and specialist range of skills and domain knowledge*
- *Interest in the content of higher education course*
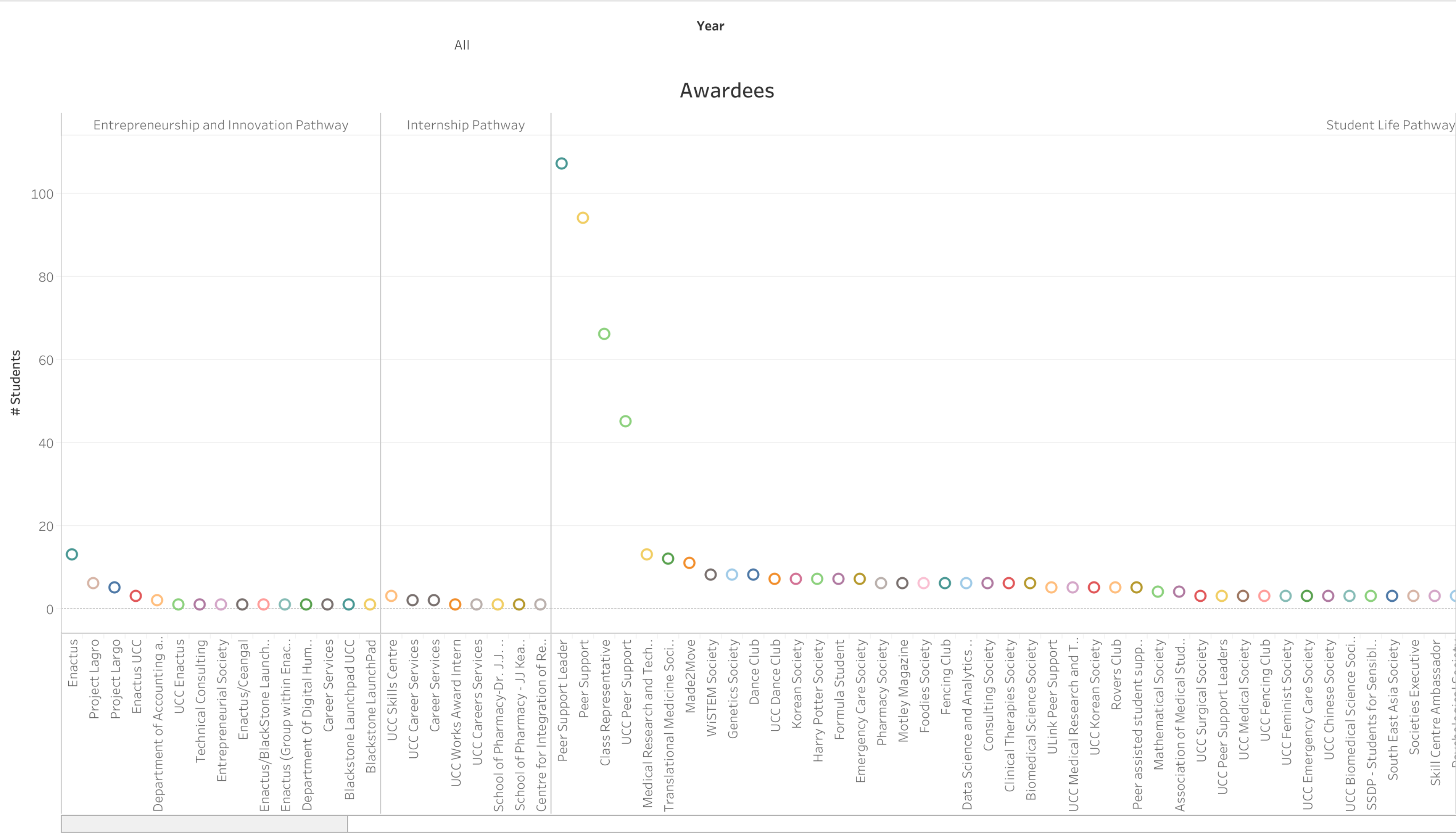
SNAPSHOT OF THE VISUALISATION DASHBOARD TOP-LINE INSIGHTS

UCC EMPLOYAGILITY AWARD DETAILS

The bubble line chart on the last slide displays a snapshot of the UCC EmployAgility Awards' details for the 2020 and 2021 batch. There are four pathways in which these awards are categorised:

- *Entrepreneurship and Innovation Pathway*
- *Internship Pathway*
- *Student Life Pathway*
- *Volunteering Pathway*

The **majority of the students** belong to the **"Student Life Pathway"** in both batches with **"Peer Support" topping the charts**. During the year **2019-2020**, the highest number of students (**94**) and during the year **2020-2021**, the highest number of students (**98**) belonged to the **"Peer Support" Club**.

The **second biggest pathway** is the **"Volunteering Pathway"** during both the batches, with **"UCC Cancer Society" topping the charts**. During the year **2019-2020**, the highest number of students (**9**) and during the year **2020-2021**, the highest number of students (**10**) belonged to the **"Cancer Society" Club.**

PHASE 2:

UNDERSTANDING MARKET DEMANDS IN THE KEY SECTOR - EMPLOYER SURVEY INSIGHTS

VISUALISATION DASHBOARD 2: EMPLOYER SURVEY INSIGHTS - UNDERSTANDING LABOUR MARKET DEMANDS

1. Projected skills areas that employers are looking for in their upcoming hiring cycles

2. Projected business areas of growth

3. Hardest-to-fill roles and vacancies

4. Future technical skills / hard skills needs

5. Future non-technical skills / soft skills needs

6. Companies' graduate / early career recruitment process trends for UCC

7. Prediction of hiring trends from key sectors

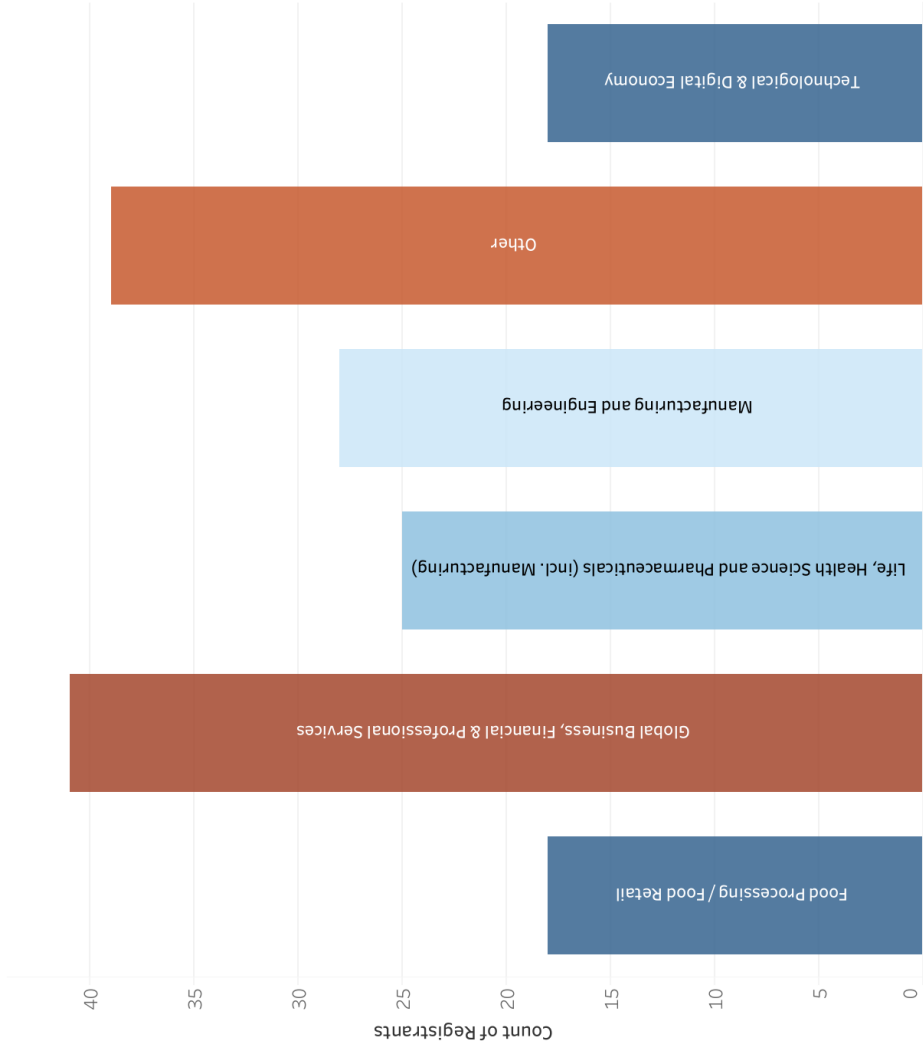*Click on the image on the left to access the live visualisation dashboard.*
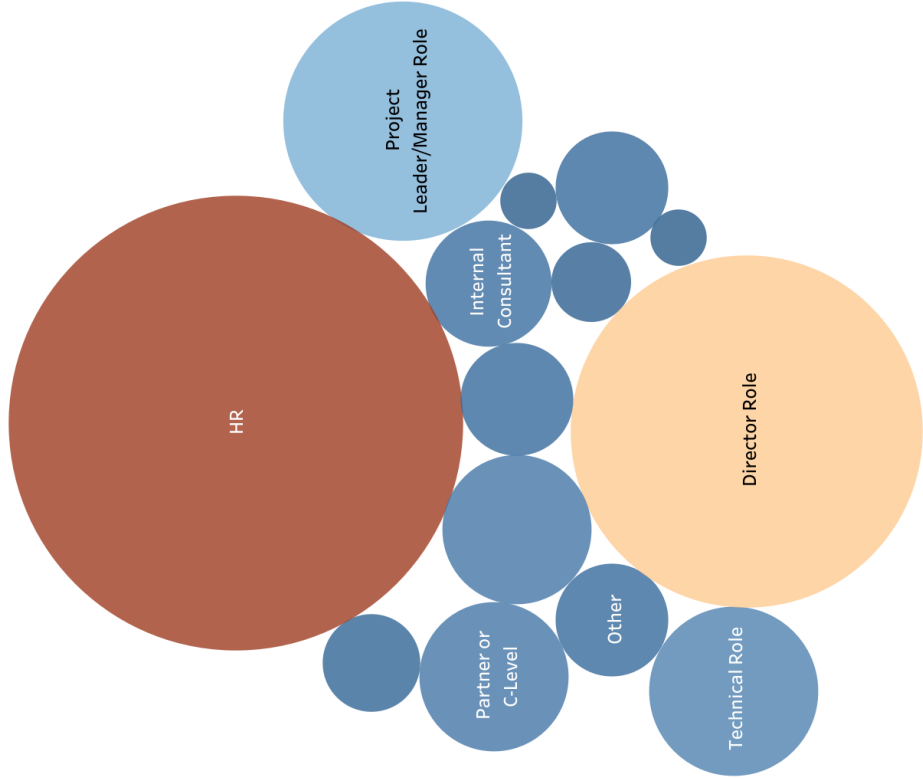
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University College Cork - Career Services

SNAPSHOT OF THE VISUALISATION DASHBOARD TOP-LINE INSIGHTS

Industrial Sector

All

Different roles in the industry

- HR
- Director Role
- Project Leader/Manager Role
- Internal Consultant
- Partner or C-Level
- Other
- Technical Role

What industrial sector do employers deal in?

- Technological & Digital Economy
- Other
- Manufacturing and Engineering
- Life, Health Science and Pharmaceuticals (incl. Manufacturing)
- Global Business, Financial & Professional Services
- Food Processing / Food Retail

Count of Registrants (0, 5, 10, 15, 20, 25, 30, 35, 40)

What does the employer's early-career recruitment process look like?

Count of Registrants (0, 10, 20, 30, 40, 50)

- Behaviour/Competence Based Interviews: 54
- Technical Interviews: 32
- Medical Checks: 21
- Prior-Industrial Experience Check: 13
- Technical Tests: 8
- Aptitude Tests: 8
- Process Testing Interviews: 3
- Work Ethics an... Assessments: 1

X-axis categories: Aptitude Tests | Behaviou... | Medical Checks | Prior- Industri... | Process Testin... | Psychome tric Tests | Technical Interviews | Technical Tests | Video Intervie... | Work Ethics an...

Does the employer intend to hire graduates from UCC in the coming years?

- Rather not say: 62.13%
- Yes: 33.14%
- Maybe: 4.14%
- Would only hire Postgraduates: 0.59%

Based on the employer's projected hiring needs, which skill areas should graduates / early career candidates focus on?

Industry Technological & Digital Economy sectors

Requirement: Sky-High | High | Average | Low | Insignificant

Count of Registrants (0, 2, 4, 6, 8, 10, 12, 14, 16, 18)

Skill areas (columns): Blockchain | Business Processes | Cybersecurity | Data Science and Dat.. | Decision Making for Lea.. | DevOps and MLOps | Digital Business Analysis and Dat.. | Digital Design and Dat.. | Digital Product Ma nageme.. | Digital Project Man agement and Pri.. | Digital Security and Pri.. | Entrepr.. experien.. | Industrial Internet of Things | Internet experien.. of Things | Mathema tics and S tatistics | Problem Solving and Cri.. | Professio nal Certifi cations | Progra.. | Social Media Skills | Technical Translat.. and Funct ional Wr..

EMPLOYER SURVEY ANALYSIS

For the second phase of the study, the employer survey to understand the current and near-future labour market trends. The survey was rolled out to **175 recruiters** working in different companies operating in five key industrial sectors in various roles. This sample size accurately reflects the snapshot of the opinions of the total active employers on UCC's system with a **confidence level**∗ of **95%** with a **margin of error**∗∗ of **7.2%.**

3,707 employers who are active on our system that we are going to send the survey to.
The five key statistics about the industrial sectors are listed below:
- **24.3%** of the recruiters who filled the survey operate in **Global Business, Financial & Professional Services Sector**
- **16.6%** deal in the **Manufacturing and Engineering Sector**
- **14.8%** operate in the **Life, Health Science and Pharmaceuticals Sector**
- **10.7%** operate in **Food Processing / Food Retail Sector**
- **10.7%** deal in **Technological & Digital Economy Sector**
- **23%** operate in **"Other" sectors.**

The main job roles of the recruiters who participated in the survey as a part of the study are **HRs (38.5%), Directors (23%), Project Leaders / Managers (10.7%), Technical Roles (5.3%), Administrative Roles (4.1%), and Partner or C-Level Executives (4.1%).**

When the employers were asked if they intend to hire graduates from UCC in the coming years, an overwhelming majority (62.3%) passed the question, **one-third of the employers (33.1%) confirmed they would hire from UCC,** 4.1% indicated maybe, and only, 0.6% of the employers said that they would only be interested in hiring postgraduates.

∗The confidence level is the probability that your sample accurately reflects the attitudes of the population. The industry standard is 95%.
∗∗ The margin of error represents the range (measured as a percentage) that your workforce population's responses may vary from your sample's.

PROJECTED SKILLS AREAS THAT EMPLOYERS ARE LOOKING FOR IN THEIR UPCOMING HIRING CYCLES

relevant to graduates/early career candidates in Food Processing / Food Retail Sector.

In **Food Processing / Food Retail Sector**, there is a **"Sky-High Hiring Demand"** for the following skills areas:

- Problem Solving and Critical Thinking Skills ★★★★★★★★★★
- Team Work and Leadership Skills; ★★★★★★★★★☆

The **"High Hiring Demand"** skills areas are the following:

- Digital and Computational Literacy ★★★★★★★★★★
- Communication Skills ★★★★★★★★☆☆
- Industrial Experience (Internships, Fellowships, Apprenticeships, Part-Time work, etc.) ★★★★★★★★★★☆☆
- Quality Assurance and Validation Skills; ★★★★★★★★☆☆

The skills areas which are in **"Average Hiring Demand"**:

- Supply Chain Transparency ★★★★★★★
- Health and Safety ★★★★★★★

Note: The employers rated the listed skill areas based on their importance on a scale of 5 parameters: Insignificant, Low, Average, High and Sky-High

PROJECTED SKILLS AREAS THAT EMPLOYERS ARE LOOKING FOR IN THEIR UPCOMING HIRING CYCLES

relevant to graduates / early career candidates in Technology and Digital Economy Sector.

In **Technology and Digital Economy Sector**, there is a **"Sky-High Hiring Demand"** for the following skills areas:

- Problem Solving and Critical Thinking Skills ★★★★★★★★★★
- Programming, Web and App Development Skills; ★★★★★★★★★★★★

The **"High Hiring Demand"** skills areas are the following:

- Digital Project Management ★★★★★★★★★★
- Technical and Functional Writing ★★★★★★★★★★★
- Decision Making for Leaders ★★★★★★★★★★★
- Industrial Experience (Internships, Fellowships, Apprenticeships, Part-Time work, etc.) ★★★★★★★★★★★★
- Internet of Things (IoT) ★★★★★★★★★★★

The skills areas which are in **"Average Hiring Demand"**:

- Entrepreneurship Frameworks and Innovation Skills ★★★★★★★★
- Blockchain, Business Processes, Social Media, Translation and Communication Skills ★★★★★★★★

Note: The employers rated the listed skill areas based on their importance on a scale of 5 parameters: Insignificant, Low, Average, High and Sky-High

PROJECTED SKILLS AREAS THAT EMPLOYERS ARE LOOKING FOR IN THEIR UPCOMING HIRING CYCLES

relevant to graduates / early career candidates in the Life Sciences, Health and Pharmaceutical Sectors

In the **Life Sciences, Health and Pharmaceutical Sectors**, there is a **"Sky-High Hiring Demand"** for the following skills areas:

- Industrial Experience (Internships, Fellowships, Apprenticeships, Part-Time work, etc.) ★★★★★★★
- Health and Safety Skills; ★★★★★★★

The **"High Hiring Demand"** skills areas are the following:

- Critical Thinking ★★★★★★★★★★★★★
- Data Analytics Skills ★★★★★★★★★★★★★
- Industrial Experience (Internships, Fellowships, Apprenticeships, Part-Time work, etc.) ★★★★★★★★★★★★★★★
- Lean Manufacturing and Six Sigma Skills ★★★★★★★★★★★★★★

The skills areas which are in **"Average Hiring Demand"**:

- IT and Computing Skills ★★★★★★★★★★★★
- Lean Manufacturing and Six Sigma Skills ★★★★★★★★★★★

Note: The employers rated the listed skill areas based on their importance on a scale of 5 parameters: Insignificant, Low, Average, High and Sky-High
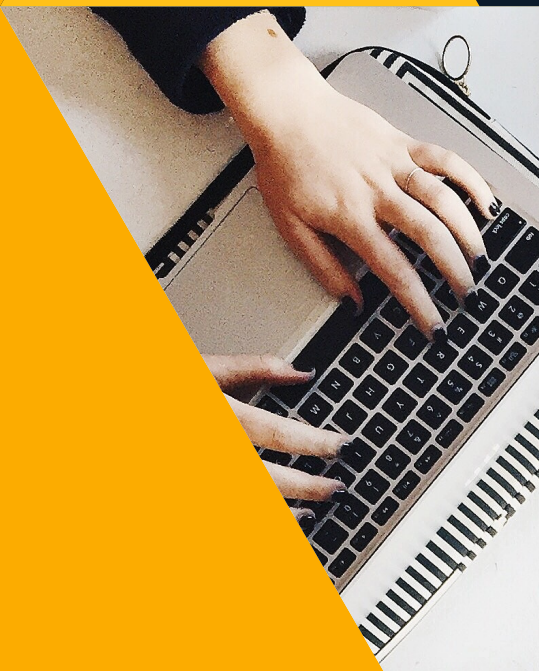
PROJECTED SKILLS AREAS THAT EMPLOYERS ARE LOOKING FOR IN THEIR UPCOMING HIRING CYCLES

relevant to graduates / early career candidates in Manufacturing and Engineering Sectors.

In the **Manufacturing and Engineering Sectors**, there is a **"Sky-High Hiring Demand"** for the following skills areas:

- Problem Solving and Critical Thinking Skills ★★★★★★★★
- Industrial Experience (Internships, Fellowships, Apprenticeships, Part-Time work, etc.) ★★★★★★★★

The **"High Hiring Demand"** skills areas are the following:

- Communication Skills ★★★★★★★★★★★★★★★★★★★★
- Problem Solving and Critical Thinking Skills ★★★★★★★★★★★★★★★★★★★★★★★
- Digital Fluency ★★★★★★★★★★★★★★★★★★★

The skills areas which are in **"Average Hiring Demand"**:

- Entrepreneurship Frameworks and Innovation Skills ★★★★★★★★★★★★★★★★★★★★★★
- Corrective and Preventive Measures ★★★★★★★★★★★★★★★★★★★★
- Teamwork and Leadership Skills ★★★★★★★★★★★★★★★★★★

Note: The employers rated the listed skill areas based on their importance on a scale of 5 parameters: Insignificant, Low, Average, High and Sky-High

PROJECTED SKILLS AREAS THAT EMPLOYERS ARE LOOKING FOR IN THEIR UPCOMING HIRING CYCLES

relevant to graduates / early career candidates in Global Business, Financial and Professional Services Sectors.

In the **Global Business, Financial and Professional Services Sectors**, there is a "**Sky-High Hiring Demand**" for the following skills areas:

- Financial Accounting ★★★★★★★★★★★★
- Problem Solving and Critical Thinking Skills ★★★★★★★★★☆☆☆☆

The **"High Hiring Demand"** skills areas are the following:

- Strong Communication Skills ★★★★★★★★★★★★★★★★★★★★★★★★★★★
- Problem Solving and Critical Thinking Skills ★★★★★★★★★★★★★★★★★★★★★★☆☆☆☆
- Emotional Intelligence ★★★★★★★★★★★★★★★★★★★★★☆☆☆☆☆☆

The skills areas which are in **"Average Hiring Demand"**:

- Entrepreneurship Frameworks and Innovation Skills ★★★★★★★★★★★★★★★★★★★★★★★★★★
- Cultural Awareness ★★★★★★★★★★★★★★★★★★★★★★☆
- Coaching and Mentorship Skills ★★★★★★★★★★★★★★★★★★★★☆☆☆☆

Note: The employers rated the listed skill areas based on their importance on a scale of 5 parameters: Insignificant, Low, Average, High and Sky-High

PROJECTED BUSINESS AREAS OF GROWTH IN THE NEXT 2-5 YEARS

Data, Service, Engineering, Business, Manufacturing, Renewable Engineering, Management, Accounting, etc. are projected areas of growth in the next 2-5 years.
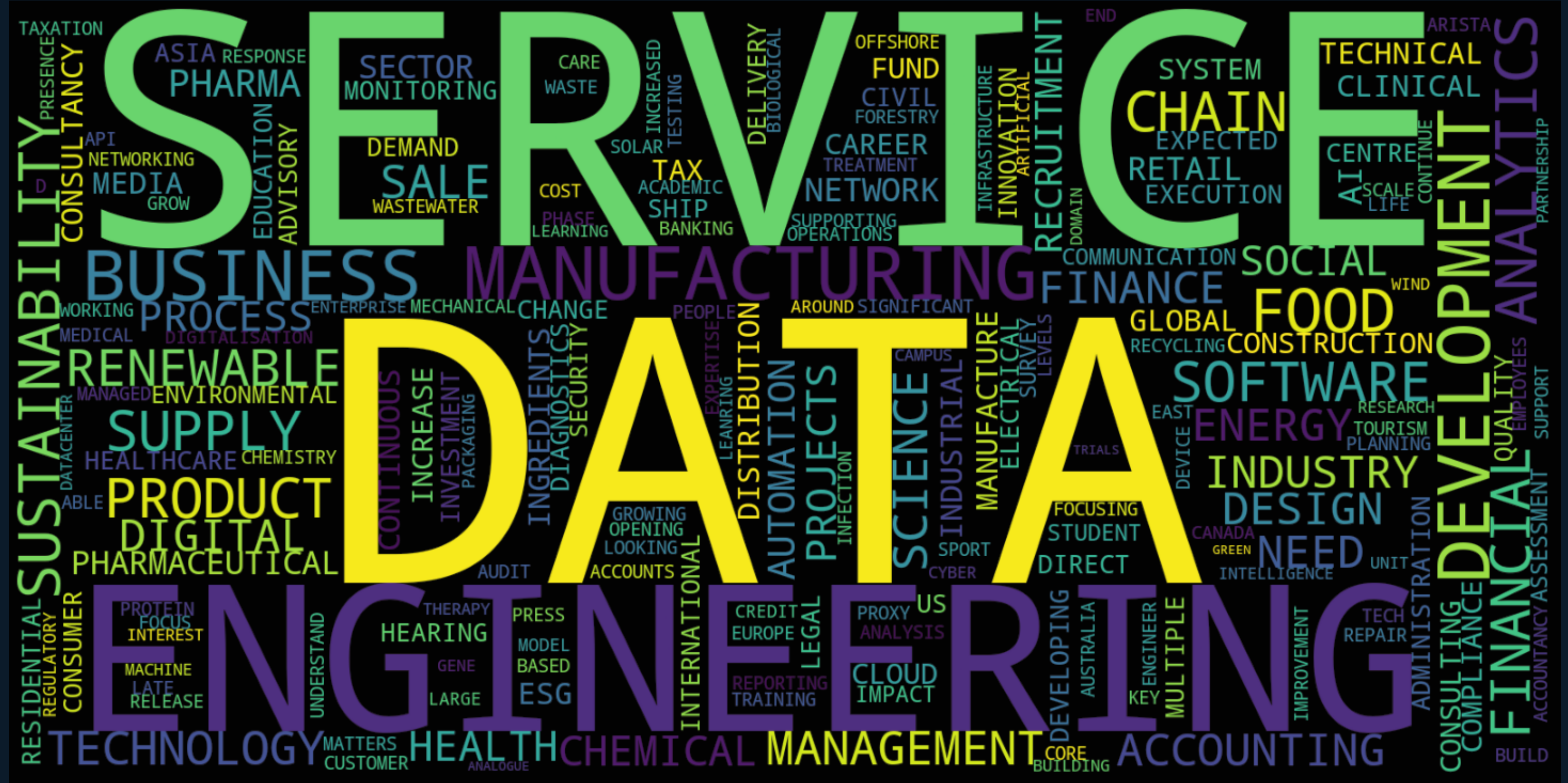
HARDEST-TO-FILL ROLES AND VACANCIES IN THE NEXT 2-5 YEARS

Automation Process Engineers, Electrical Engineers, Data Analytics, People Management, Software Developers, and Scientists, are going to be the hardest-to-fill roles shortly.

FUTURE TECHNICAL SKILLS / HARD SKILLS NEEDS
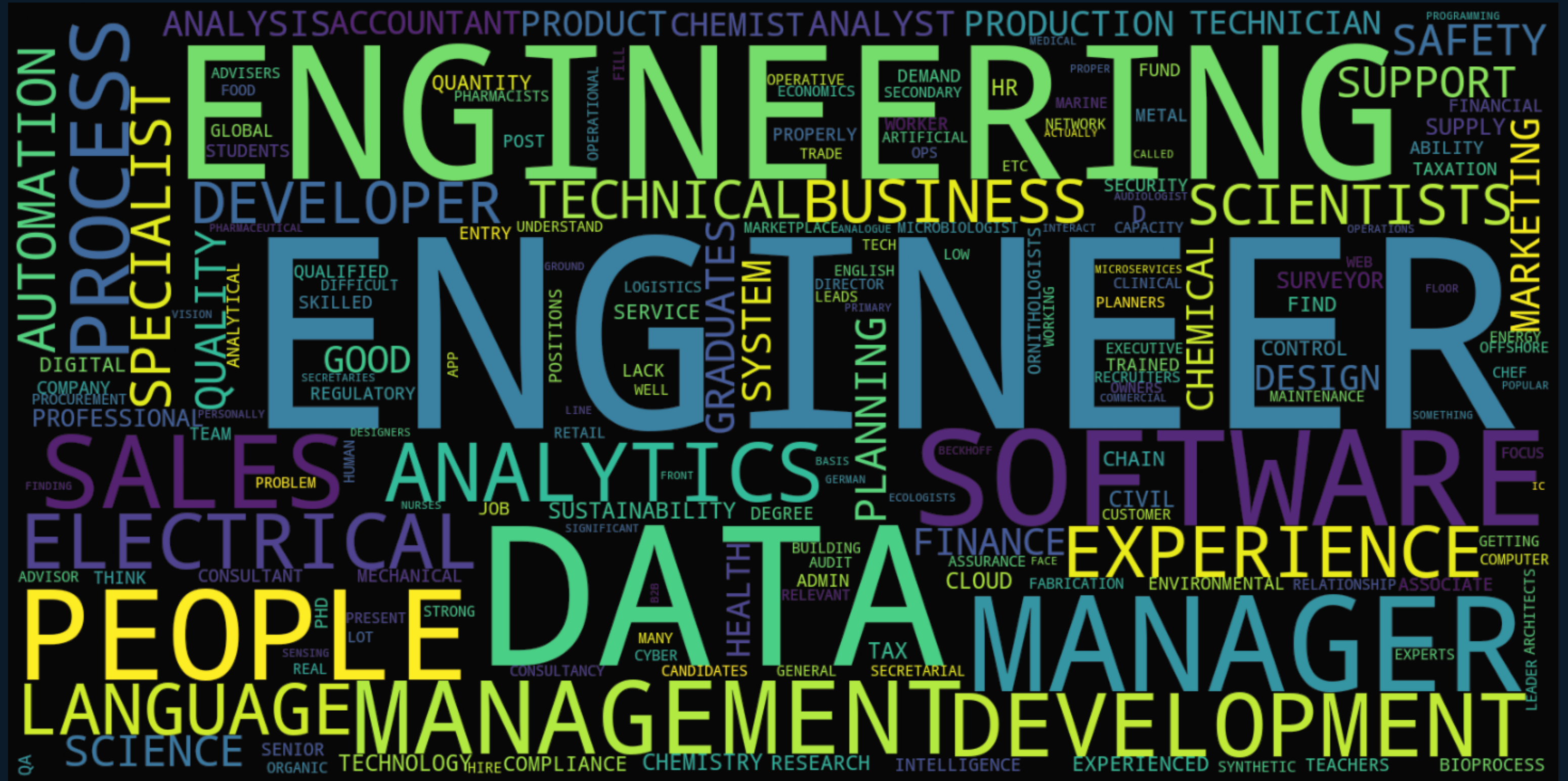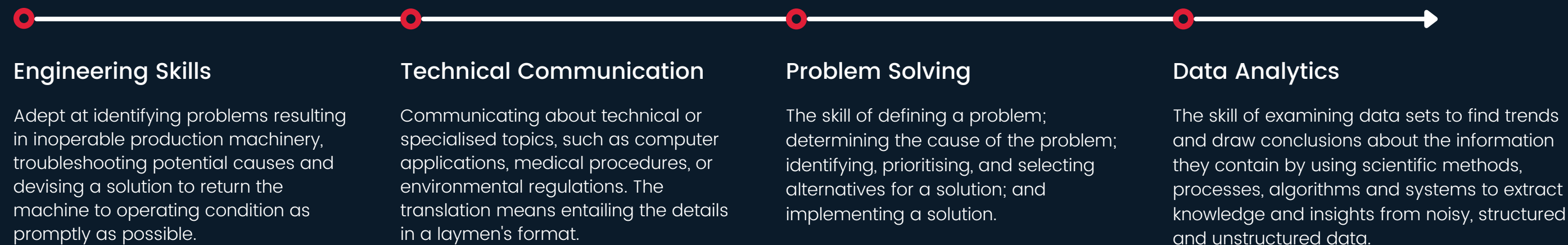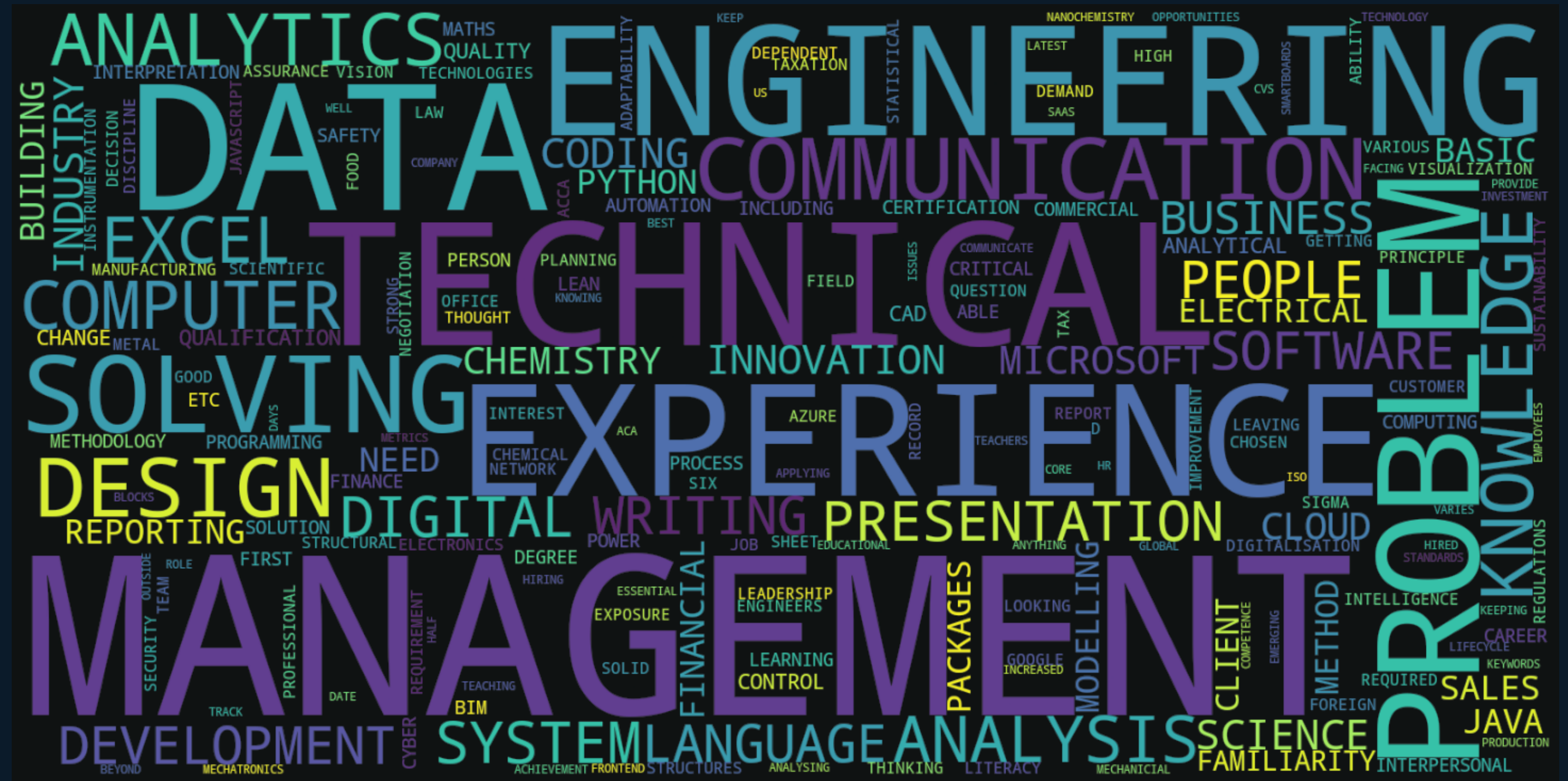
where UCC Career Services should focus their engagement for students to have long term successful careers

100% of the recruiters interviewed were sensitive to the importance of technical and hard skills including software tools and relevant certifications. This is evidenced by the fact that most employers provided high-quality insights in this regard. This word cloud on the next slide offers a window into the technical skills that the graduates should put their focus on for their long term careers. A word cloud (also known as a tag cloud) is a visual representation of text. Word Clouds are used to highlight popular words and phrases based on frequency and relevance to provide quick and simple visual insights that can lead to more in-depth analyses.

In conclusion, a word cloud analysis of the data collected on future technical skills has reflected the very diverse nature of skills including **Technical Experience and Communication, Innocation, Writing and Presentation Skills, Data Analytics, Engineering Skills, Microsoft Office Suite, Problem Solving, Coding, Design, Reporting, System Design, Digital Literacy, Sales, Language Processing, Science Skills, etc.**

Engineering Skills

Adept at identifying problems resulting in inoperable production machinery, troubleshooting potential causes and devising a solution to return the machine to operating condition as promptly as possible.

Technical Communication

Communicating about technical or specialised topics, such as computer applications, medical procedures, or environmental regulations. The translation means entailing the details in a laymen's format.

Problem Solving

The skill of defining a problem; determining the cause of the problem; identifying, prioritising, and selecting alternatives for a solution; and implementing a solution.

Data Analytics

The skill of examining data sets to find trends and draw conclusions about the information they contain by using scientific methods, processes, algorithms and systems to extract knowledge and insights from noisy, structured and unstructured data.

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FUTURE TECHNICAL SKILLS / HARD SKILLS NEEDS

where UCC Career Services should focus their engagement for students to have long term successful careers

Technical or Hard skills are job-specific abilities or knowledge learned through education, hands-on experience, or training. The charts on the right indicate the technical skills where graduates must focus the most for their long term successful careers.
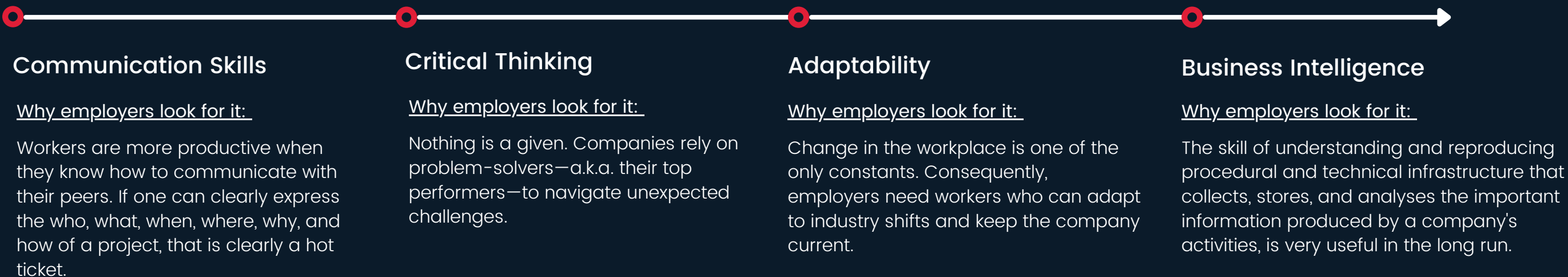
FUTURE NON-TECHNICAL SKILLS / SOFT SKILLS NEEDS

where UCC Career Services should focus their engagement for students to have long term successful careers

A graduate may have a reputation for being the best coder or editor or mechanic or any other technical skill, but it amounts to little if they don't work well with others. Some of the most important soft and professional skills for workers and employers alike simply can't be measured on paper. These traits are called soft skills and they're more crucial to the job search and overall careers. One reason soft skills are so revered is that they help facilitate human connections. According to the data, recruiters chose **teamwork/ collaboration, communication, critical thinking, empathy, business intelligence, negotiation, decision making, management, resilience, sustainable skills, adaptability, and creativity** as the most important soft skills they're seeking in new hires.

Recruiters also anticipate they'll see the **biggest gaps in communication skills, problem-solving/critical thinking, adaptability, and business intelligence** in candidates.

Communication Skills

Why employers look for it:

Workers are more productive when they know how to communicate with their peers. If one can clearly express the who, what, when, where, why, and how of a project, that is clearly a hot ticket.

Critical Thinking

Why employers look for it:

Nothing is a given. Companies rely on problem-solvers—a.k.a. their top performers—to navigate unexpected challenges.

Adaptability

Why employers look for it:

Change in the workplace is one of the only constants. Consequently, employers need workers who can adapt to industry shifts and keep the company current.

Business Intelligence

Why employers look for it:

The skill of understanding and reproducing procedural and technical infrastructure that collects, stores, and analyses the important information produced by a company's activities, is very useful in the long run.

FUTURE NON-TECHNICAL SKILLS / SOFT SKILLS NEEDS

where UCC Career Services should focus their engagement for students to have long term successful careers
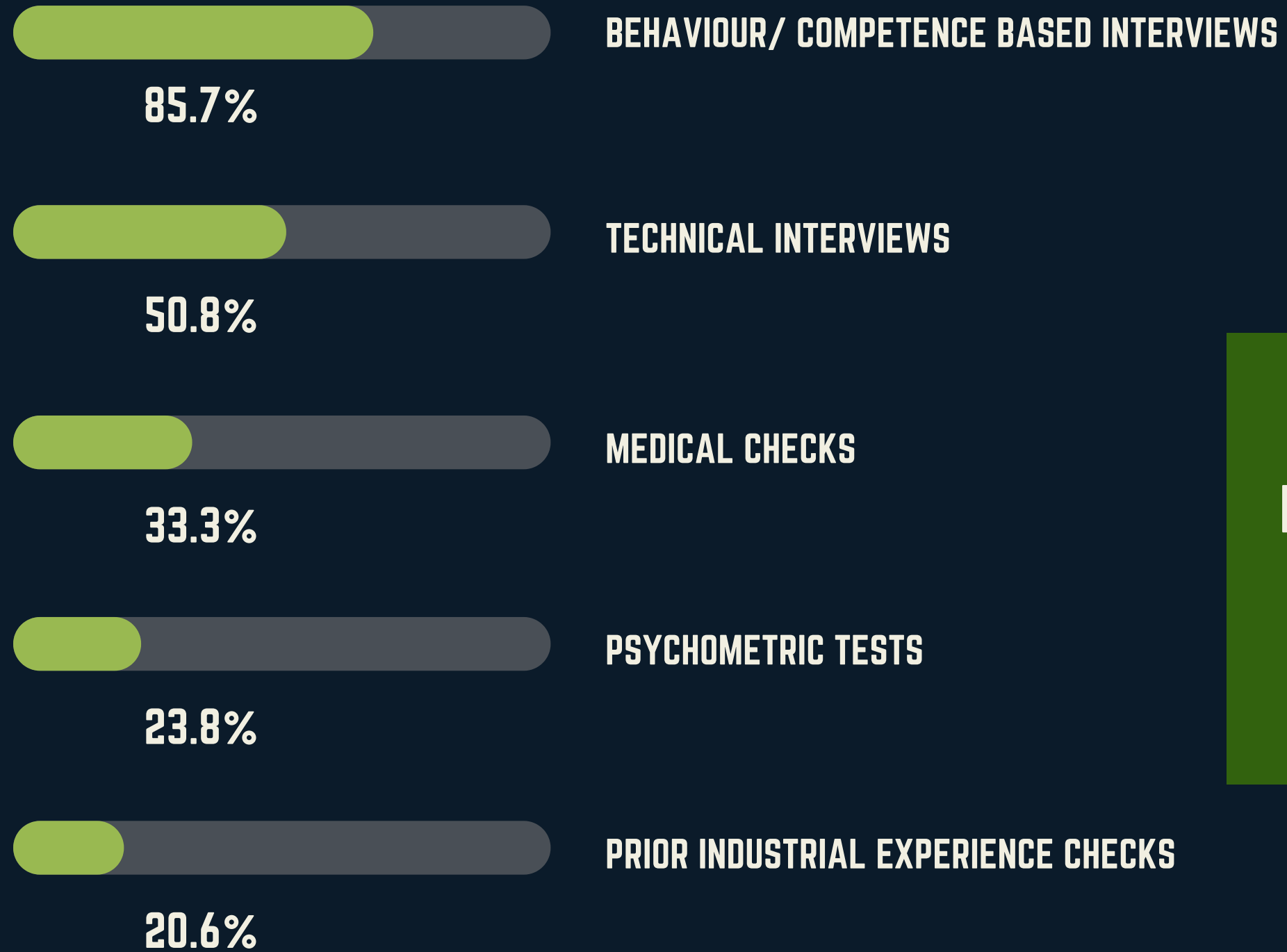
Soft skills, non-technical skills or transferrable skills are self-developed attributes, that aren't specific to a particular role and are transferrable across job roles. The charts on the right indicate the soft skills where graduates must focus the most for their long term successful careers.

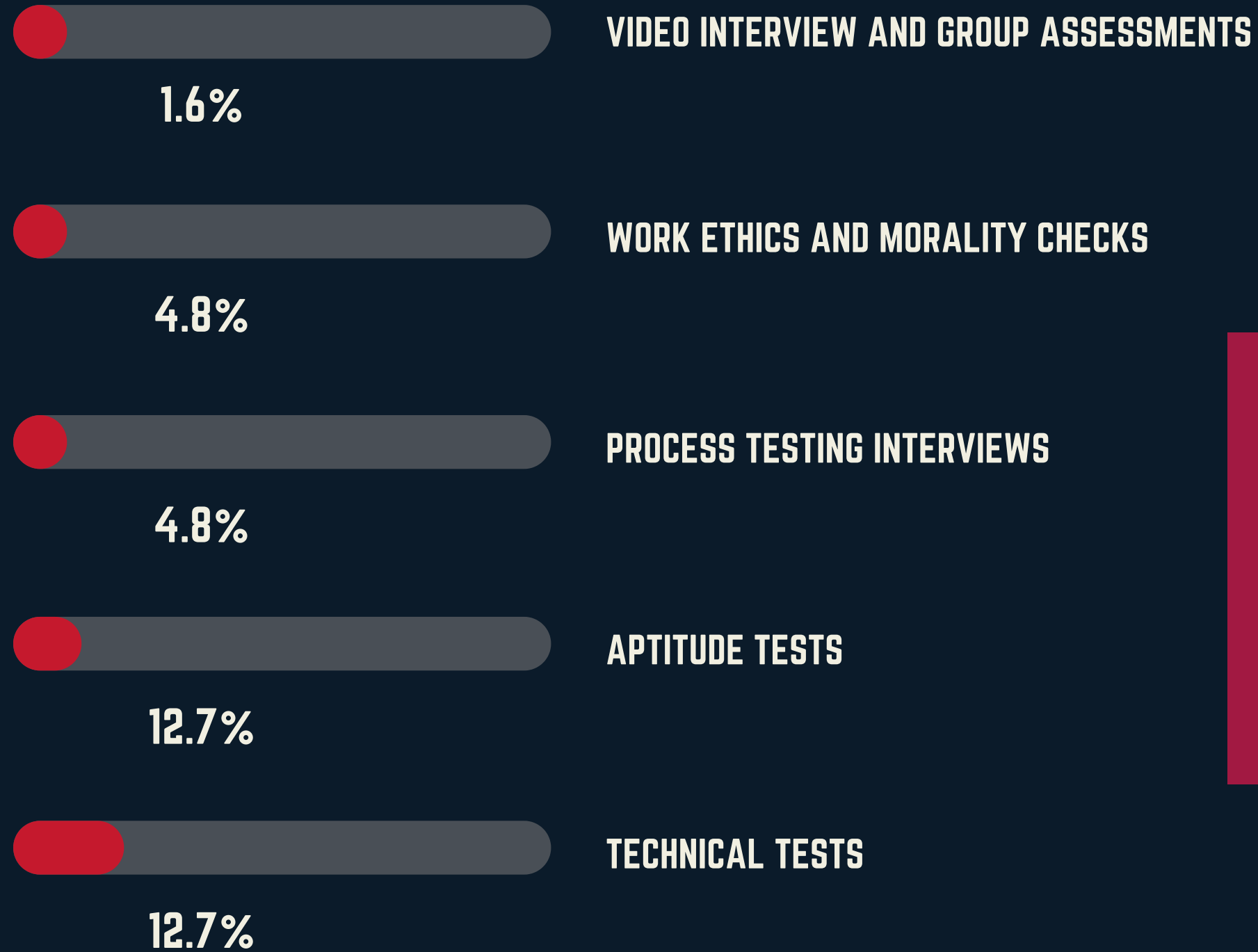# COMPANIES' GRADUATE / EARLY CAREER RECRUITMENT PROCESS TRENDS FOR UCC

BEHAVIOUR/ COMPETENCE BASED INTERVIEWS
85.7%

TECHNICAL INTERVIEWS
50.8%

MEDICAL CHECKS
33.3%

PSYCHOMETRIC TESTS
23.8%

PRIOR INDUSTRIAL EXPERIENCE CHECKS
20.6%

TOP RATED RECRUITEMNT PROCESS TRENDS

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COMPANIES' GRADUATE / EARLY CAREER RECRUITMENT PROCESS TRENDS FOR UCC

VIDEO INTERVIEW AND GROUP ASSESSMENTS

1.6%

WORK ETHICS AND MORALITY CHECKS

4.8%

PROCESS TESTING INTERVIEWS

4.8%

APTITUDE TESTS

12.7%

TECHNICAL TESTS

12.7%

LOW RATED RECRUITEMNT PROCESS TRENDS

PREDICTION OF HIRING TRENDS FROM KEY SECTOR
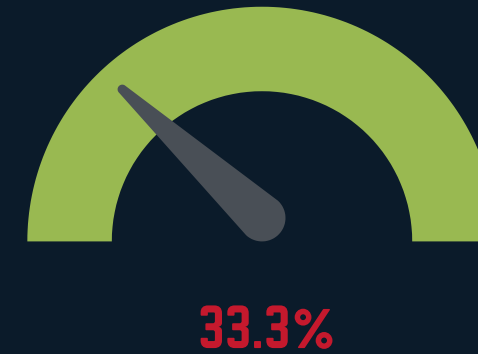
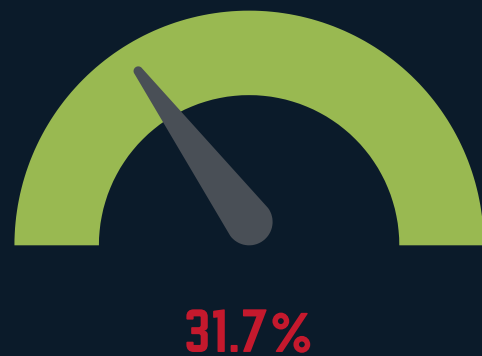Which sector is likely to hire more?

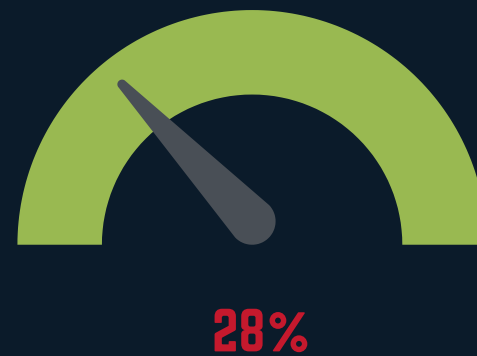**MANUFACTURING AND ENGINEERING SECTOR**
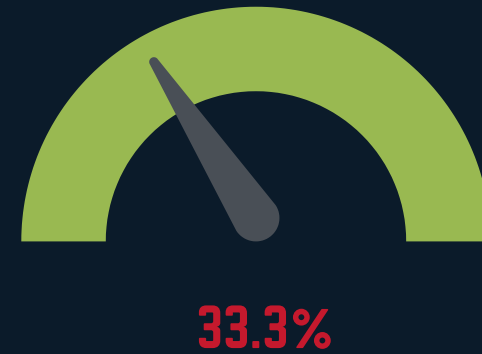
50%

FOOD PROCESSING AND RETAIL SECTOR

33.3%

TECHNOLOGY AND DIGITAL ECONOMY SECTOR

33.3%

GLOBAL BUSINESS, FINANCIAL, AND PROFESSIONAL SERVICES

31.7%

LIFE SCIENCE, HEALTH AND PHARMACEUTICALS SECTOR

28%

OTHER SECTORS

25.6%
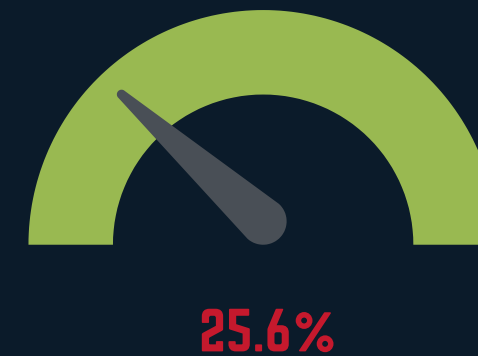
PHASE 3:

JOB POSTINGS DATA VS. SKILLS MAPPING –

A SNAPSHOT OF CURRENT SKILLS IN DEMAND

VISUALISATION DASHBOARD 3: LABOUR MARKET DEMAND ANALYSIS INSIGHTS USING REAL-TIME JOB DESCRIPTIONS

966
Count of total job postings taken into consideration for the scope of analysis

3461
Unique market-aligned skills in demand identified from the job postings data

Below is a snapshot of the top three skills in demand across all job postings data and their respective percentages captured from the total pool of the skill requirements.

Communication	Management	Innovation
10.1%	9%	8.2%

Click on the image on the left to access the live visualisation dashboard.

JOB POSTINGS DATA VS. SKILLS MAPPING

To evaluate the overall alignment of talent supply to demand and to enhance the insights that were fleshed out from phase 2 about the near future trends, it is essential to look at the demand side of the equation from a current perspective. Therefore, the third phase is focused on identifying what skills are currently in need with a special focus on the key sectors by bringing big data into the picture.

Job big data analytics provide insight into what the employers are looking for in the market and connect the misleading job titles with meaningful and interpretable skills. We analysed 966 job openings in Ireland (by taking a cue from the graduate outcomes survey data about the highly skewed distribution of more domestic job placements) and conducted an analysis study to see what employers are looking for in a candidate when they post the job descriptions. By going beyond treating the talent demand data as monolithic, we understood that the labour market is segmented along several dimensions and hence, the best way to effectively analyse the data was to convert it to the right skills.

65% of the job postings are an entry-level to 2 years of experience required and are in the middle two quartiles of the total average wage distribution for all occupations to avoid any bias in the data and capture a representative sample of the overall talent demand. To maintain the variance component, we have also taken into consideration some mid-level to senior-level jobs. Early career jobs are an important component of the labour market data because employers identify them as places to bring in new talent; graduates seek those jobs to enter a career field. Generally, these jobs require either a third or a fourth level credential, or a diploma certificate, but they do not require significant experience in a related field. These job posting data have been accumulated from different job boards and Abodoo's labour market data with a 100% proportion of the jobs posted in the past 6 months. The job postings belong to the five key sectors identified as a part of the study. It was observed that the distribution of demand across industries did not suggest considerable variation in the demand for certain skills.

JOB POSTINGS DATA

SKILLS CLUSTERS MAPPING

TOP SOUGHT SKILLS

To present the insights, a visual dashboard has been developed which presents the data as broad occupational job titles mapped against skill clusters that are associated with job titles.

The top five skills identified based on their mapping frequency against the job titles are transferrable skills and are listed below:

1

Communication

10.1%

"Communication skills" have been identified as an essential skill for entry-level job roles such as Automation Engineers, Associate HR, Brand Managers, Associate Faculty in Computing, Category, Buyer, Data Analyst, Deputy Manager, Research Scientist, Site Reliability Engineer, Supply and Inventory Manager, statistical Programmer, Technical Writer, Web and Mobile App Developer to senior roles such as Technical Lead in Pharma, Associate Directors, Senior Biostatistician, Safety Project Manager, Senior Firmware QA.

2

Management

9%

"Management skills" have appeared to be mapped to 375 unique job postings and have been identified as a requirement for not only experienced roles but also entry-level jobs. Such job roles include **Control System Engineer, Application Engineer, Account Director, Automation Engineers, BMS Manager, C&Q Engineer, Lead Equity Trader, Data and Analytics Manager, C Developer, Director of Architecture, Digital Transformation Director, Associate Director - Supply Chain, Account Manager, Financial Controller, First Line Manager, Freelance Validation Consultant** and more.

3

Innovation

8.2%

Innovation skills are the knowledge and abilities you use to create and adapt to change and have recently become a very popular job requirement, especially after the pandemic.
It has appread in 311 unique postings for job roles such as; **Order to Cash Analyst, Java Application Developer, Full Stack Developer, Insights Executive, Healthcare Territory Managers, Insider Sales Specialist, Health Economist, Mechanical Building Service Engineer, and Manufacturing Engineer**, among many others.

4

Leadership

5.6%

Leadership skills were mapped to 228 unique job openings and are associated with job roles such as **Account Director - Marketing, Application Science, Associate Project Director Statistics, Project Director -Biotech, Project Director -Global Procurement, Project Director -ERP, Civil Engineer, Cloud Engineer, Brand Manager, Commercial Analyst, CFA, Clinical Project Lead, Data Science Manager, Data Analyst, Financial Controller, Head of Cold Chain, Key Account Manager, IT Program Manager.**

5

Operations

5.6%

"**Operation skills**" have appeared to be mapped to 210 unique job postings and have been identified as an essential skill for **Software engineers and Developer, Case Management specialists, Startup Expert, Junior Technical Writer, Tax Manager, Technical Designer, Supply and Inventory Manager, Vice President - Pharma, Technical Consultant, Summer Internship - Operations, Technical Program Manager, Workforce Planner, MES**, etc.

The other 20 most important skills that surfaced during the analysis from the perspective of frequency in the job postings are listed below:

Sales	5.00%	Biopharmaceuticals	2.48%	Customer Service	1.96%
Marketing	4.33%	Biotechnology	2.48%	Interpersonal Communications	1.82%
Leadership	4.31%	Presentations	2.25%	Written Communication	1.82%
Operations	3.32%	Influencing Skills	2.20%	Regulatory Affairs	1.82%
Planning	2.92%	Oncology	2.17%	Research	1.79%
Life Sciences	2.60%	Microsoft Excel	2.11%	Negotiation	1.76%
Problem Solving	2.51%	Detail Oriented	2.08%	Clinical Trials	1.59%

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AUTHOR RECOMMENDATIONS THAT ARE DRAWN FROM DATA INSIGHTS

WHAT STORY DOES DATA TELL?

There are three critical junctures in the journey of a student from education to employment where career services play an integral role in the meeting (a) enrolling in the educational degree, (b) advising the right pathway to build job-relevant skills through different ways like 1:1 career interactions, in-person or digital career fairs, career awareness events and (c) finding a job. The three phases of the project offer three major considerations for Career Services considering a shift in the market landscape after the pandemic.

1. Keep regular pace with the shifting labour market

This may include looking outside of the academy for assistance, employing such tactics as strengthening employer partnerships, creating hybrid and work-based learning programs, and sharing curricula between institutional departments to share the work of keeping up.

While many academic mechanisms run slowly, there are also immediate-term options to uncover the skill-friendly practices that already exist within the current curriculum and systems. This can be realised by following the below-listed methods:

- **Surface existing skills in the curriculum for greater visibility and help learners articulate these skills on resumes and CVs**
- **Inform classroom decisions with real-time data from local or regional job postings**
- **Apply principles of the agile methodology to ensure that market research takes place on a regular, timely schedule**

And over the longer term, looking more closely at a market alignment or breaking down a degree into subcomponents (i.e., micro-credentials) can help the career service move faster and be more flexible in terms of equipping students with the skills requested by employers.

2. Teach soft skills by design

The second and third phases pointed out that many of the soft and transferrable skills (otherwise known as non-technical or human skills) are non-negotiable for the employers and are expected of graduates when they enter the workforce. These skills are taught implicitly, rather than explicitly: "Chemistry instructors teach about chemical reactions, not explicitly the collaboration with the lab partners. Engineering curricula teach the rules of grammar, not the rules of communication etiquette in the workplace".

While workplace etiquette may not appear on a syllabus now, that could change. Incorporating skills-based language is a big step toward taking the implicit and making it explicit. Most of all, it's a matter of shifting perspective, identifying priorities, and supporting faculty.

- **Consider a skills-based approach to career counselling education**
- **Support faculty and instructors in terms of the awareness of providing career-relevant instruction**
- **Explore new ways of transcribing skills that are already taught**

And most of all, career services can market their graduates using real-life skills, career, and outcomes data. This shows prospective learners and employers that the institute is already framing education in terms of skills and hireability.

Employers are taking a second look at what qualifications must look like for certain jobs. This shift in how employers recruit talent means that talent — the graduates — needs to be equipped for a skill-first market.

3. Emphasis on building certain specialised skills such as Entrepreneurship and Innovation Frameworks, Digital Technology Skills, and Sustainability Skills through Peer-to-Peer learning networks.

It is still a topic of much debate whether entrepreneurs are born or made. But, while it is generally acknowledged that there are natural "born entrepreneurs", there are also researchers who believe that entrepreneurship is a skill that can be learned. It is important therefore for career services to recognise that students can be introduced to **entrepreneurship and innovation frameworks** with their different levels of skill sets and provide them with a different "game plan" for developing niche skills. Furthermore, skill development is qualitative, not quantitative, and would also demand some level of transformation on the part of the entrepreneur.

Digital skills are becoming increasingly important in the global economy, yet this assessment confirms that there is a shortage of skills in this area in the market as well as a lack of **digital literacy and confidence**. A fuller understanding of how new technologies like data science, cybersecurity, blockchain and augmented and virtual reality, can enhance different aspects of different industrial sectors– from manufacturing and production to marketing and communications, to sales and e-commerce. It is therefore not just about tactical digital transformation but rather empowering students to take a more strategic view on how learning new digital technologies can impact their career in the long run.

The market is changing. The end consumers are becoming increasingly aware of the role that industrial sectors have played in creating many of the social, economic, and environmental challenges we face. They are frustrated with business-as-usual responses and are connecting and collaborating to collectively demand more from their brands: more responsibility, more transparency, and more humanity. **Hence, sectors of all sizes are pushing to make a change and therefore, the need for sustainability skills has come up.** The sectors which are progressive enough to respond pro-actively to these end-consumer trends are rapidly moving sustainability and social change (SCS) issues from the periphery of their business plans to the beating heart of their business model. It is recommended that there must be a consideration of how to advise and provide the necessary sustainability skills to students allowing them to become more environmentally aware and sustainable as they progress to the next step in their career ladders.

CONCLUSION

Higher education has historically been centred on the degree. Many organisations have utilised the bachelor's degree as a proxy for skills in hiring because of its reputation for excellence. Employers are resetting degree requirements in a wide range of roles, changing the preference of requirements to top-sought skills in many entries to middle-level roles. In a dynamic and fast-changing marketplace, an increasing onus needs to be placed on the importance of graduates' training and skills development to optimise the current employer needs plus the making future talent pipeline resilient by embedding a spirit of lifelong learning throughout an individual's working career. This is increasingly required to keep skills as relevant and up-to-date as possible.

The evidence presented in the report highlights the current snapshot of the graduates that have recently gone to the market and the market demand both from employers and big data perspectives covering both technical, non-technical and generic business areas. The outcomes of this report are expected to contribute significantly to the comprehending and designing of the 1:1 career advising interactions and career fairs strategies for the upcoming batches. With these insights, Career Services can immediately begin improving career programs. These will also allow the institute in highlighting their graduates' value and relevance by using

UCC Career Services

CONCLUSION

the right language that employers and job-seekers recognise. Among prospective learners of all ages and backgrounds, the demand for short-term credentials that teach work-relevant skills is stronger than ever. Attracting and serving these learners requires an approach to program development that matches their priorities.

The natural next step to this study is to have a recurring data analytics of the graduate's pipeline every year and combine an assessment of employer needs with a skill-based assessment of academic offerings, on top of the students' enrollment data per course. Through this, the institution will get the detailed information which they need to build effective, in-demand credentials. Articulating and calling out the skill contents of different courses matched with the employment data is key to understanding the work-relevance of different courses, as well as equipping completers to communicate the value of their credential to potential employers. This sought vs. taught analysis can help you identify a "sweet spot" for developing micro-credentials -- where the unique capabilities and expertise of the institution intersect with the workforce needs of regional or international employers.

The report lays out a perfect foundation to also tally the impact of the institutes' alumni's earnings and increased productivity in the regional workforce, hence the economic impact of the institute in the region. This is a significant piece of information for the institute's marketing and advertising exercises to convey to the community.

Overall the project findings provide enough evidence to define the right questions to answer with data-backed insights for the UCC Careers Services to fulfill their objectives and perform outstandingly well on the set key performance indicators.

APPENDIX.
KEY INDUSTRIAL SECTOR DEFINITIONS

There were five key industrial sectors identified for the project to encompass some significantsmaller sectors and the definitions of the same are listed below:

Industrial Sector	Definition
Manufacturing and Engineering Sector	Includes aerospace/aeronautical, automotive, chemical and control processing, electrical, electronics, environmental, instrumentation, manufacturing, materials, mechanical and power systems sub-sectors and companies.
Life, Health Science and Pharmaceuticals Sector	Comprises of companies operating in the research, development and manufacturing of pharmaceuticals, biotechnology-based food and medicines, medical devices, biomedical technologies, nutraceuticals, cosmeceuticals, food processing, and other products that improve the lives of organisms.
Food Processing / Food Retail Sector	Includes chain and franchised restaurants which encompasses all fast food, eateries and full-service locals, in addition to all retail supermarkets and grocery stores.
Global Business, Financial & Professional Services Sector	Includes professional service enterprises, global business, financial enterprises (such as banks) and regulatory authorities; the financial markets (for instance, the bond, equities and currency markets) and their participants (issuers and investors); and the payment system – cash, cheque and electronic means for payments – and its participants (e.g. banks)
Technological & Digital Economy Sector	Includes three primary components - computer science infrastructure, artificial intelligence, and other industries related to information technology (IT), electronic business processes and electronic commerce transactions.

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GRADUATE
ATTRIBUTES
UNIVERSITY COLLEGE CORK

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