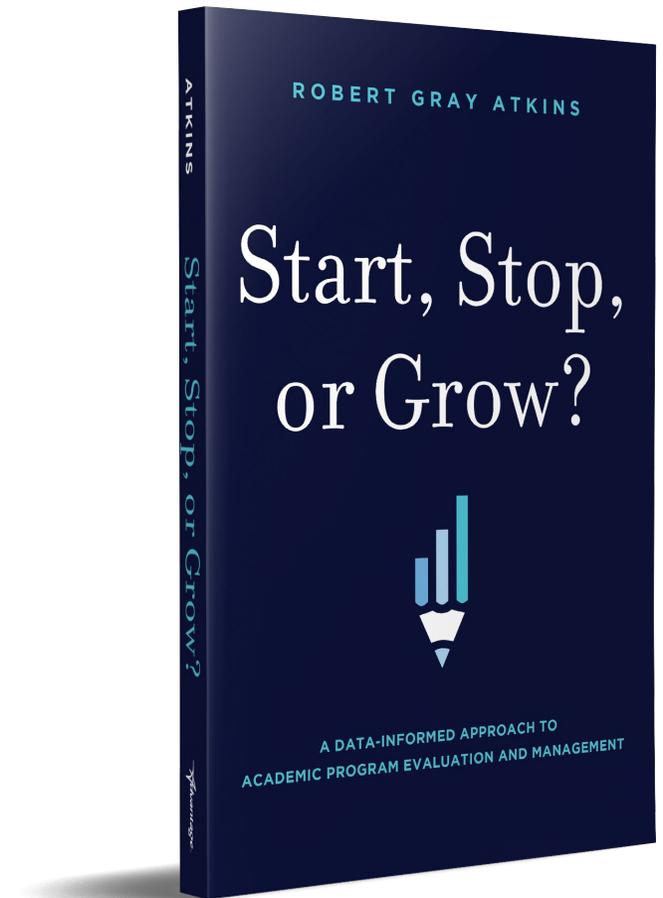




**GRAY**  
ASSOCIATES

## Demand for Higher Education Programs

Results through December 2022



## Gray has developed a complete Program Evaluation System (PES).

We assemble the data in easy-to-use software.



**Gray has developed a complete Program Evaluation System.**

**We facilitate an inclusive, data-informed evaluation process.**



# Agenda

## Student Demand

- **Current Demand: Enrollment**
- **Leading Indicators: Google Searches**
- **Non-Degree Courses**

## Employment: Current Indicators

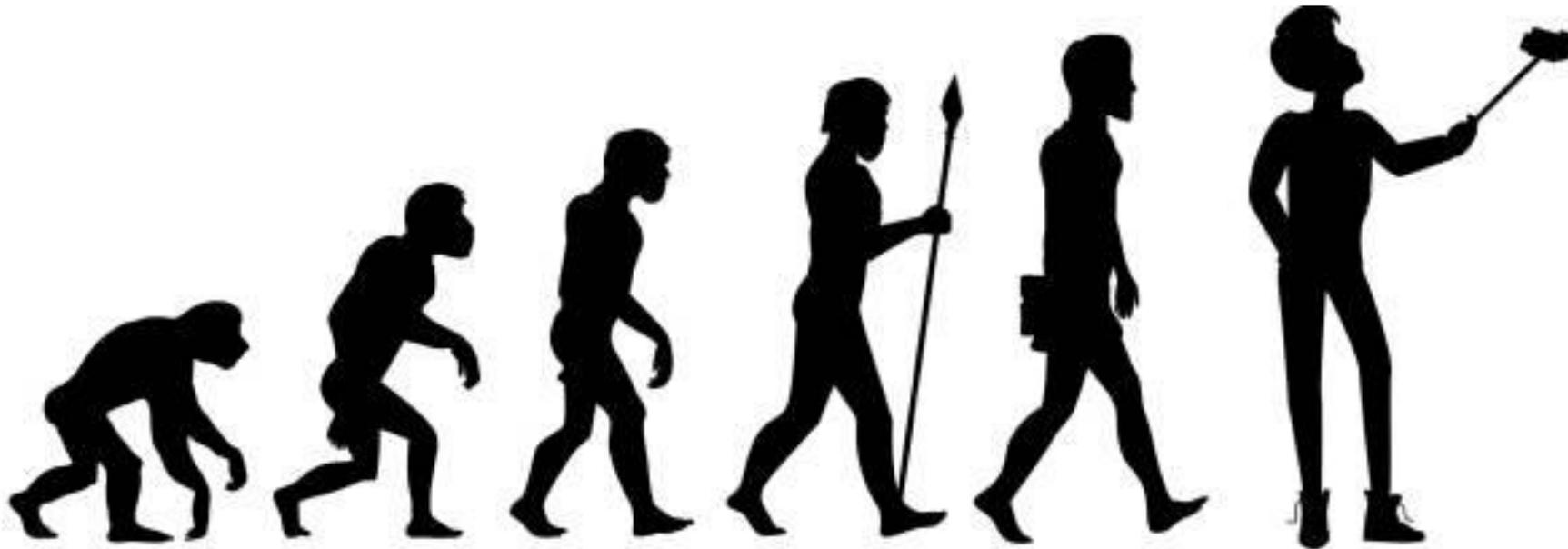
## College Athletics

## Program of the Month

## Summary

# IPEDES, Enrollment, and Google Search: Past, Present and Future

Insights on Student Demand



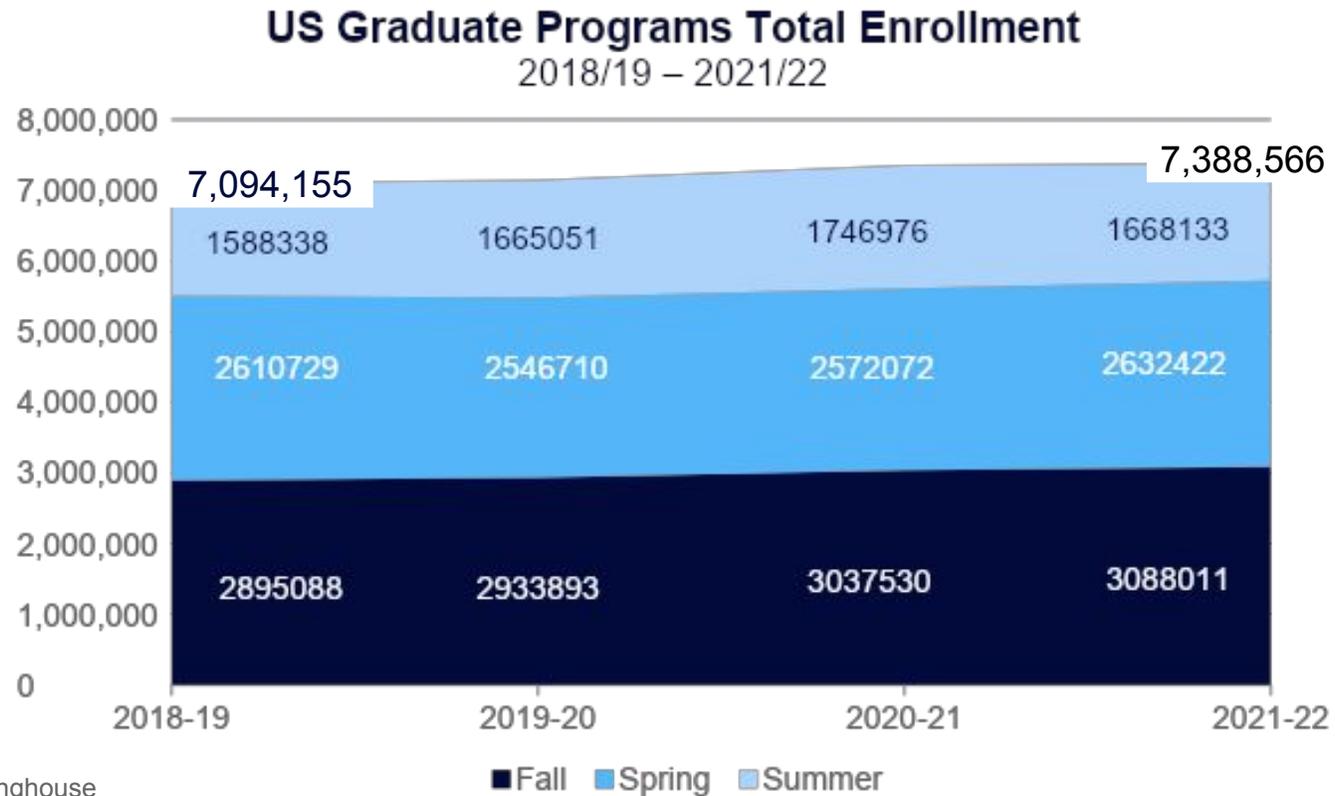
IPEDES

Enrollment

Google

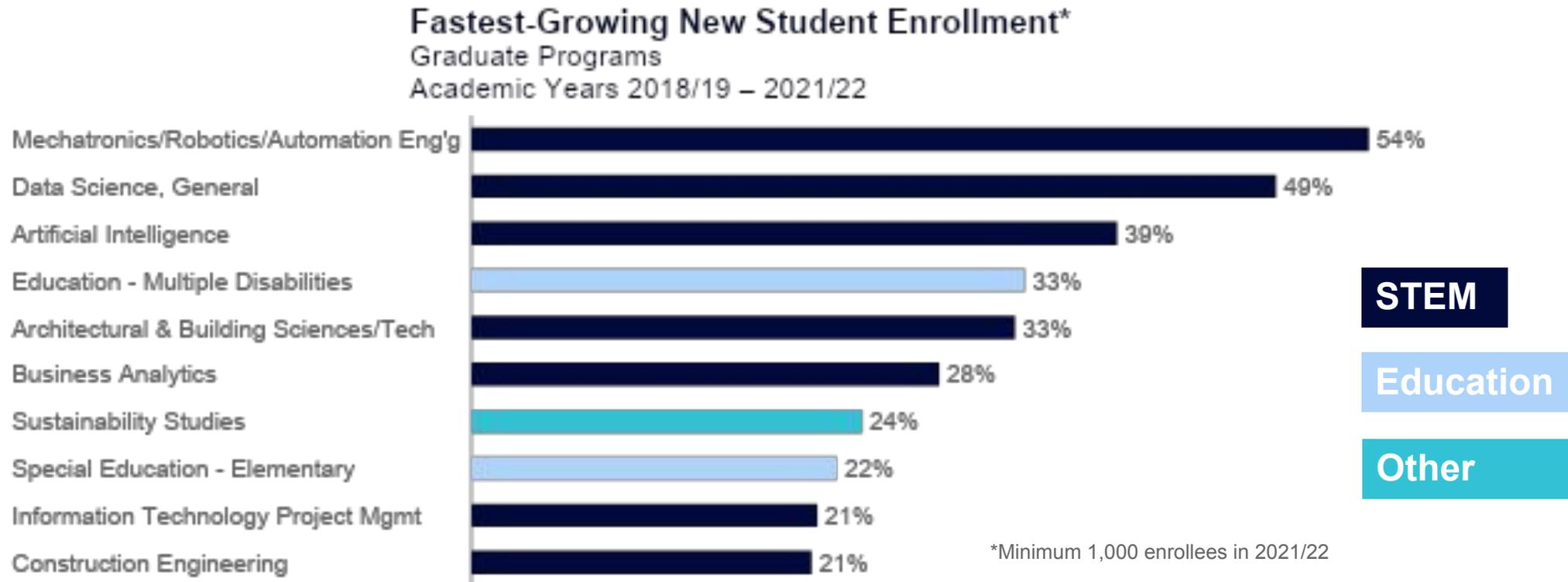
## Total graduate enrollment has gone up for three straight years.

- 2021/22 Fall enrollment increased 1.7% year-over-year, Spring rose 2.3%, while Summer declined 4.5%.
- Since 2018/19, total enrollment has increased from 7.1 million to 7.4 million, primarily in the fall.



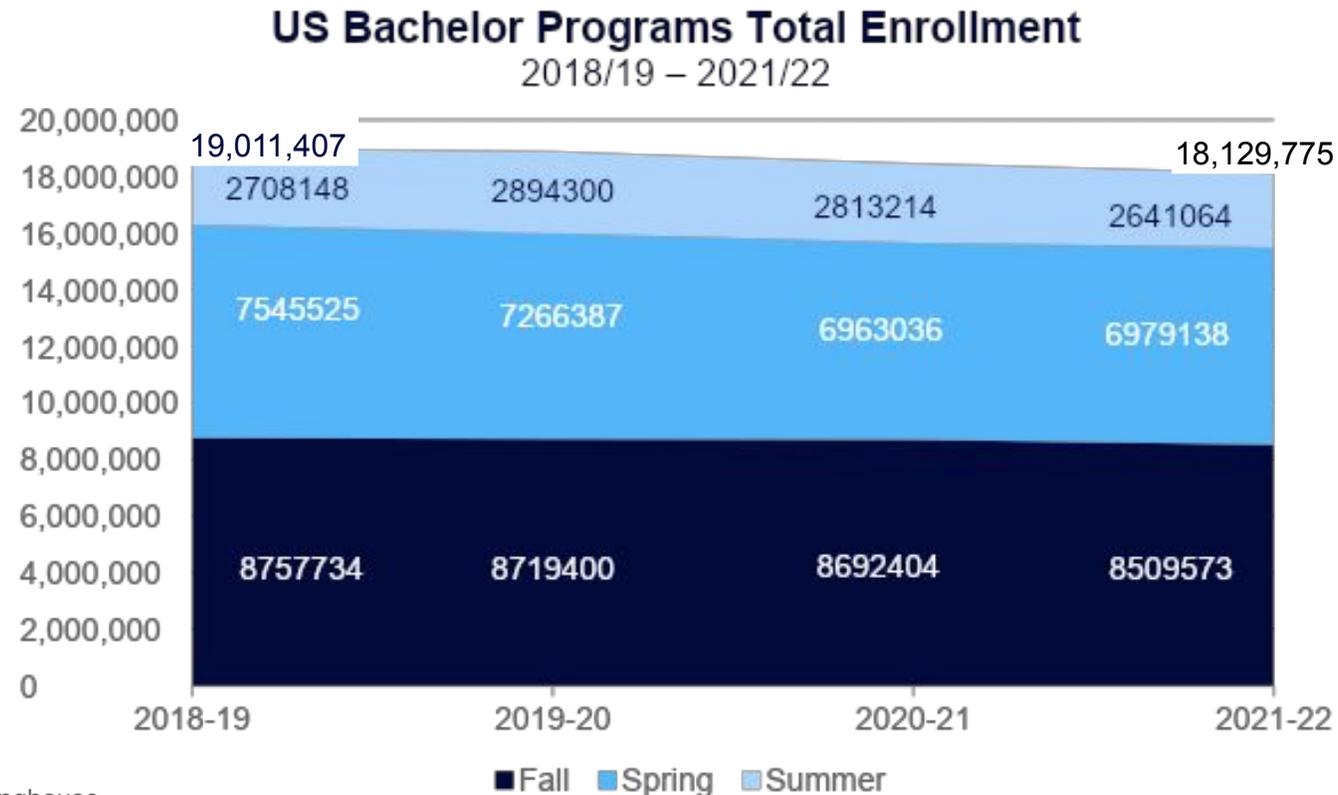
Source: Gray Analysis of National Student Clearinghouse

## New graduate enrollment grew 54% year-over-year in Mechatronics.



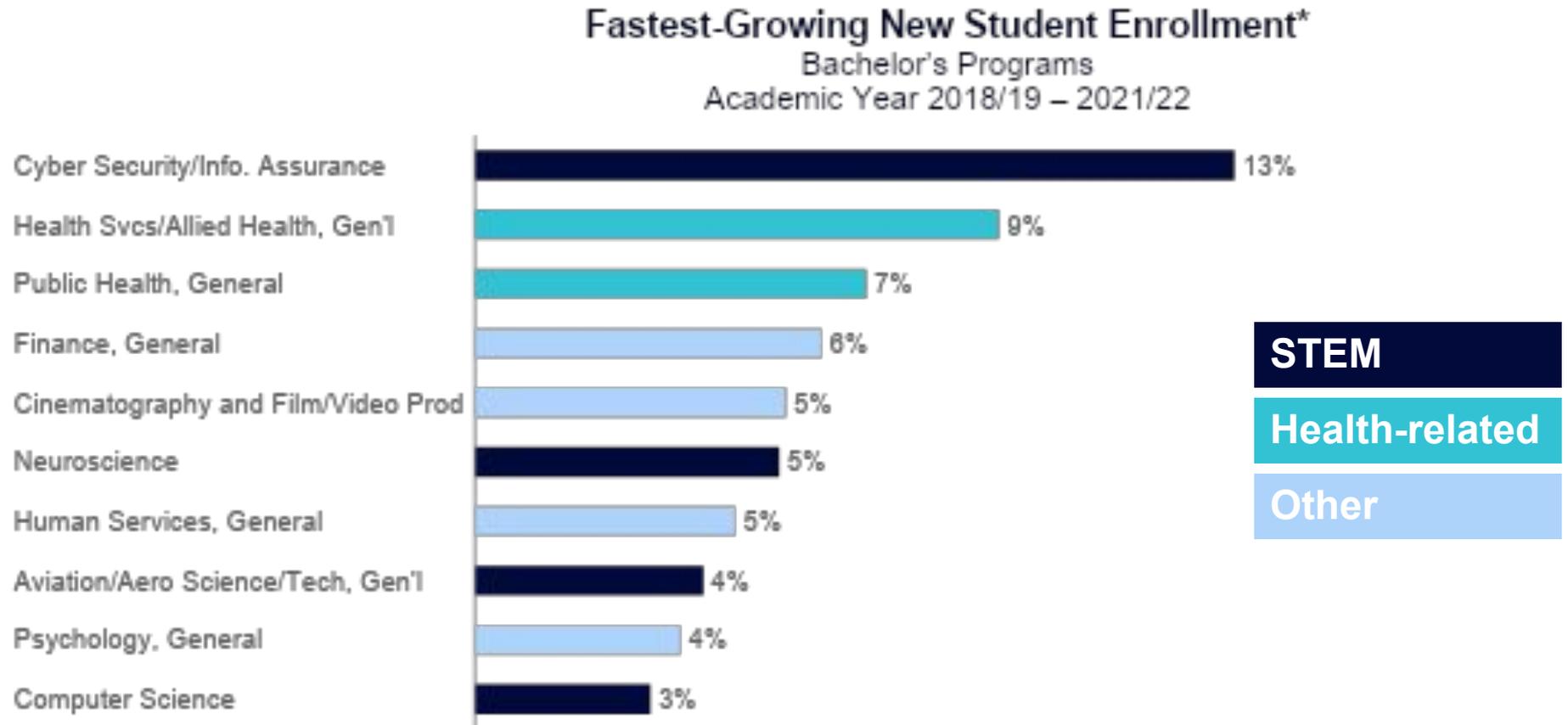
## Total bachelor's enrollment has gone down.

- Since 2018/19, total bachelor's enrollment has fallen by 882 thousand students.
- In 2021/22, Fall enrollment decreased 2.1% year-over-year, summer fell 6%, but Spring rose 0.2%.



Source: Gray Analysis of National Student Clearinghouse

# New bachelor's student enrollment in Cybersecurity grew 13% year-over-year.



Source: Gray Analysis of National Student Clearinghouse

\*Minimum 5,000 enrollees in the academic year 2021/22

# Agenda

## Student Demand

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- **Non-Degree Courses**

## Employment: Current Indicators

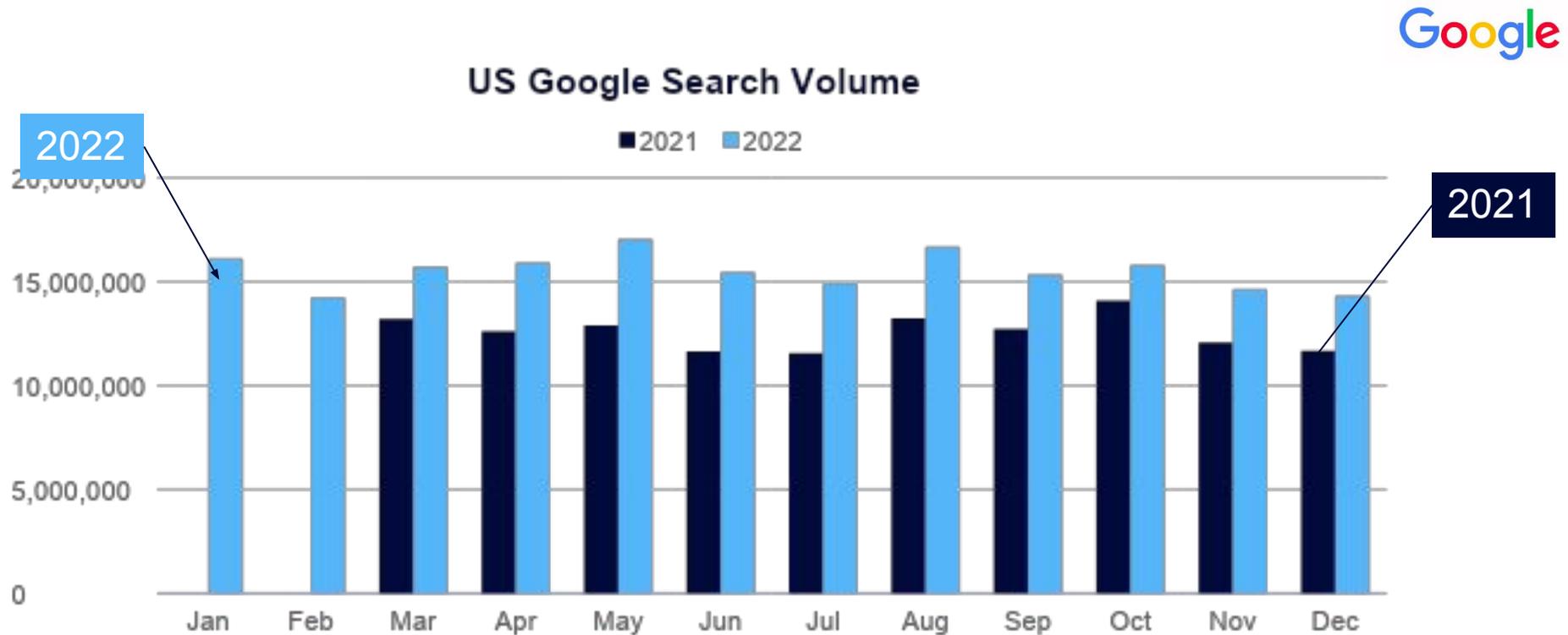
## College Athletics

## Program of the Month

## Summary

## Google Search Trends: Programs

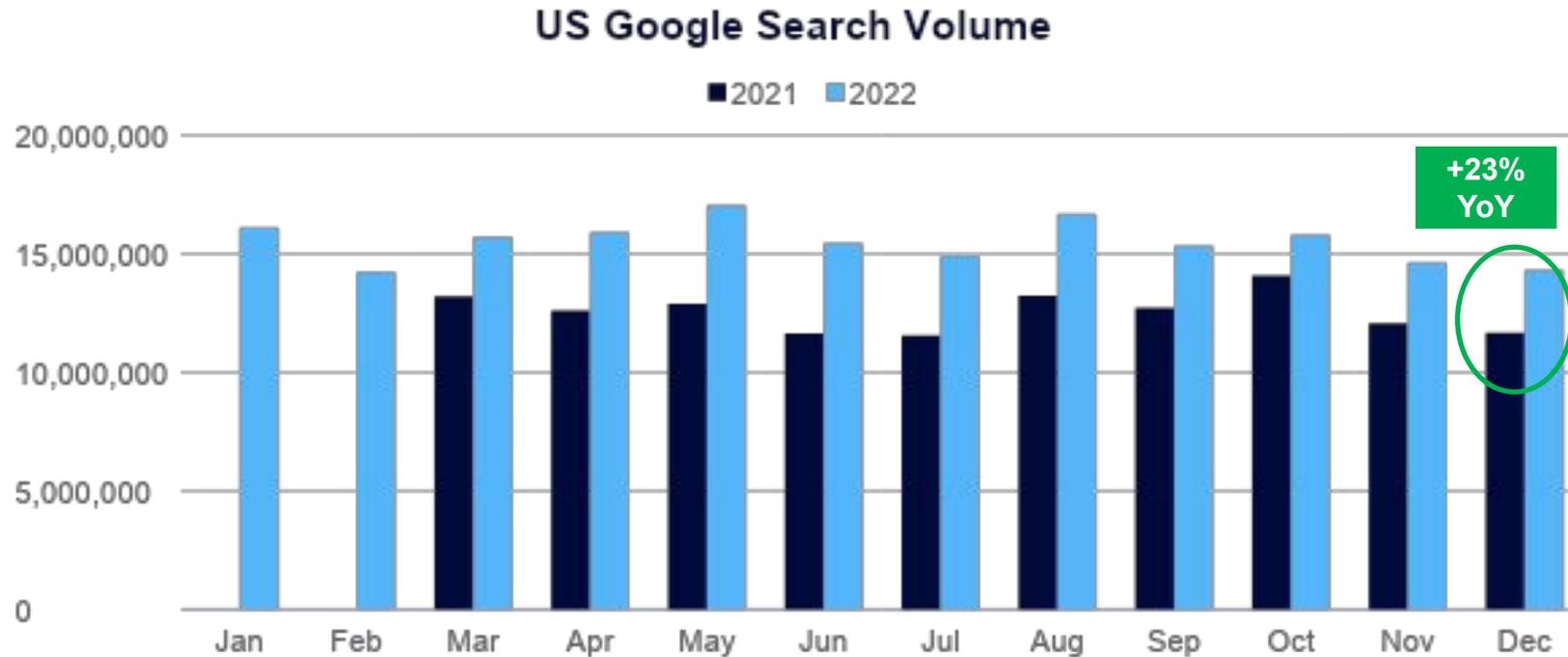
Gray tracks searches for over 900 programs (90% of all US completions).



Source: PES Keyword Search Dashboard

## Google Search Trends: Programs

In December, Google searches for academic programs rose 23% year-over-year.



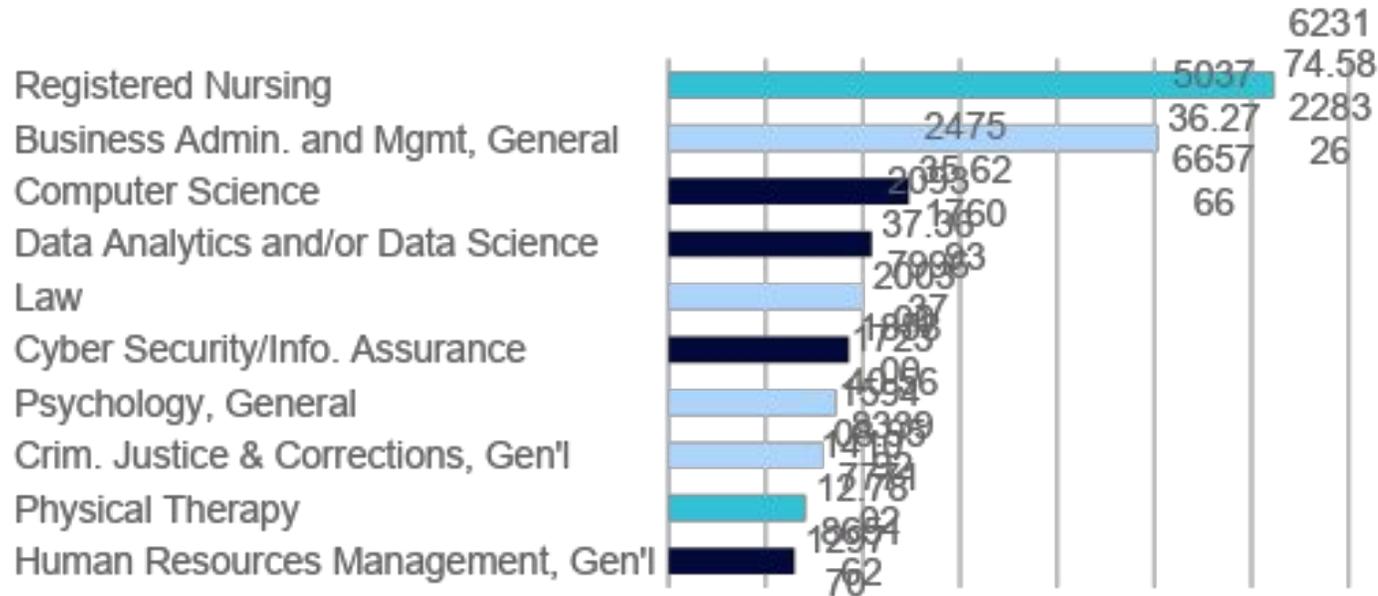
Source: PES Keyword Search Dashboard

# Google: US Highest Search Volume, Bachelor's and Above

In December, Registered Nursing had the highest search volume.



Programs with the Highest Volume of Keyword Searches  
December 2022



- STEM
- Health-related
- Other

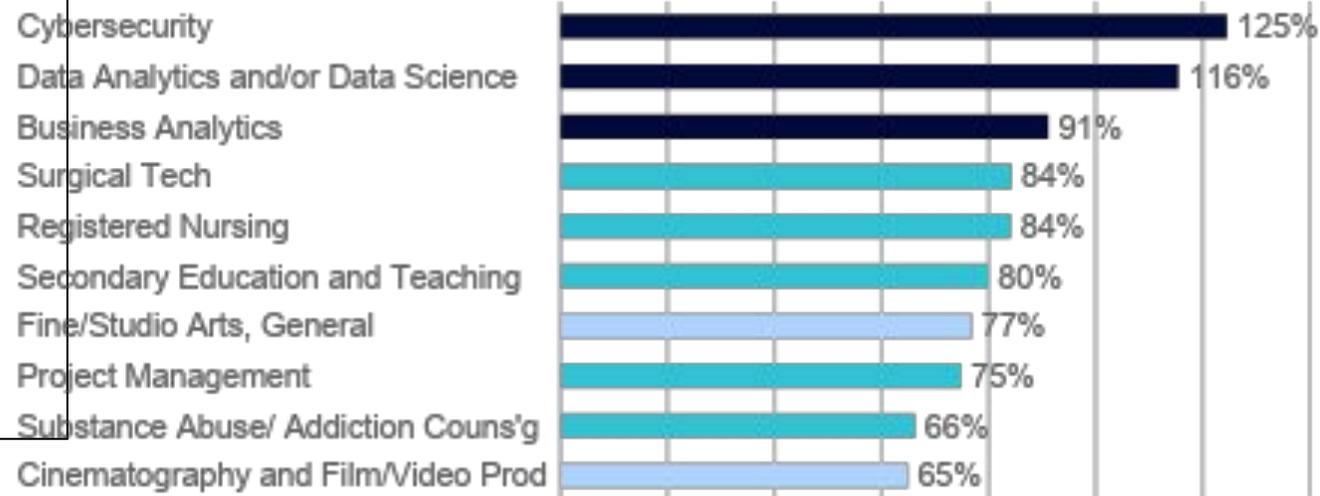
Google search volume for standardized sets of academic keywords for academic programs..  
Source: PES Keyword Search Dashboard

# Google: US Fastest-Growing Programs

In December, searches for Cybersecurity programs increased 125%.



**Fastest-Growing Programs**  
YoY Growth\*  
December 2022



**Big Data**

**Arts**

**Other**

\*Minimum 10,000 searches December 2022

# Agenda

## Student Demand

- **Current Demand: Enrollment**
- **Leading Indicators: Google Searches**
- **Non-Degree Courses**

## Employment: Current Indicators

## College Athletics

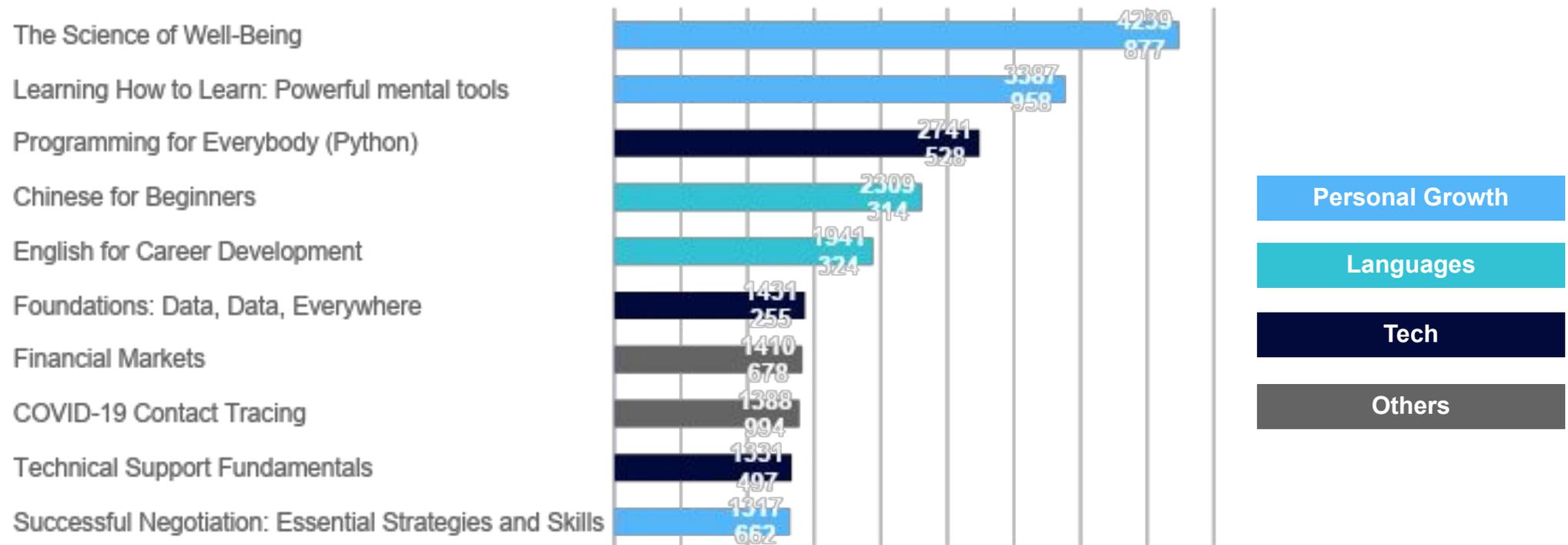
## Program of the Month

## Summary

## Coursera: Highest Cumulative Course Enrollment

In December, The Science of Well-Being had the highest cumulative enrollment.

Highest Cumulative Course Enrollment Volume  
December 2022

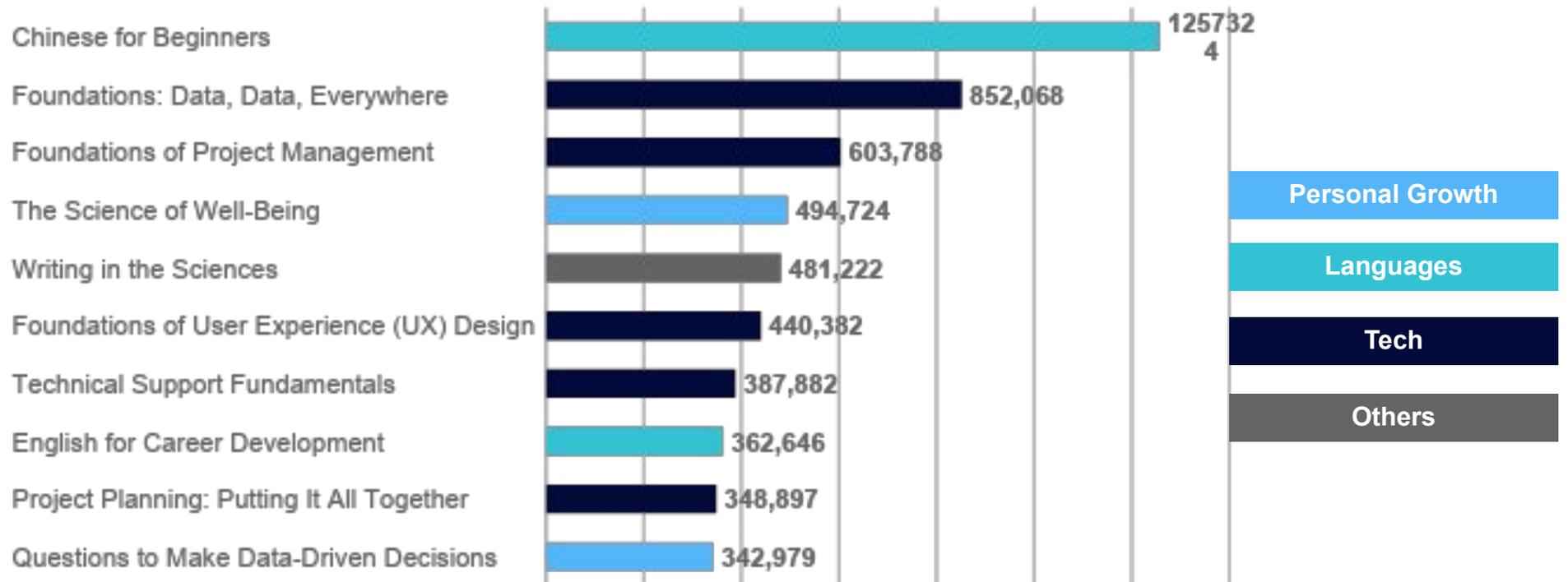


Source: PES Non-Degree Demand: Coursera

## Coursera: Fastest-Growing Courses

In December, Chinese for Beginners added the most students year-over-year.

Highest Year-Over-Year Unit Change in Cumulative Enrollment  
December 2022



Source: PES Non-Degree Demand: Coursera

## Coursera: Influencer Marketing Certificate

**Creative Economy was one of Gray's 5 Emerging Programs to Watch 2023. Coursera is keeping up with growing student demand.**



41,706 already enrolled

 Rutgers the State University of New Jersey

### Influencer Marketing Strategy

**Skills you'll gain:** Advertising, Brand Management, Communication, Entrepreneursh...

★ 4.4 (168 reviews)

Intermediate · Course · 1-3 Months

**coursera**

- **Media platforms** such as Instagram, YouTube, TikTok, and Twitch connect creators with their audiences.
- “Influencers” include bloggers, vloggers, writers, gamers, artists, and other content builders.
- Creators monetize content, activities, skills, knowledge, and personal brands.
- They earn income from consumers, advertisers, and affiliate partners.

***“Their posts seem frivolous. Their business isn’t.”***  
– The Economist

Sources: Gray's Emerging Programs Research and Coursera.org

# Agenda

## Student Demand

- **Current Demand: Enrollment**
- **Leading Indicators: Google Searches**
- **Non-Degree Courses**

## Employment: Current Indicators

## College Athletics

## Program of the Month

## Summary

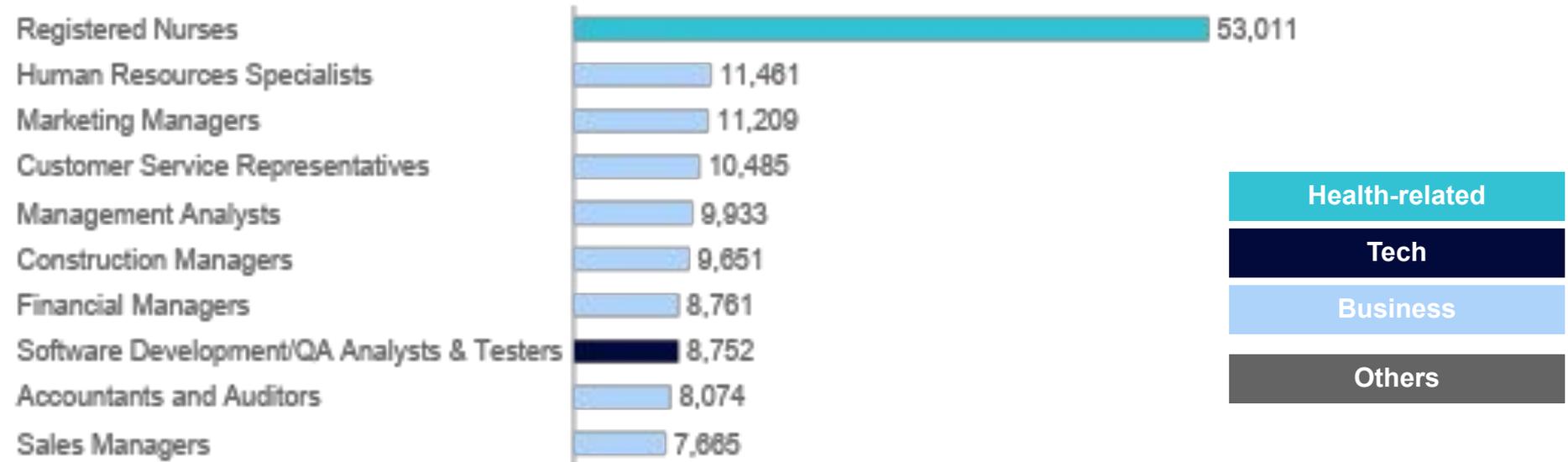
**In December 2022, job postings volume increased 11% year-over-year.**



Source: PES Job Postings Dashboard

**In December, Registered Nursing had the highest job postings; business occupations dominated the rest of the top 10.**

**December 2022 Highest Job Postings**  
By Standard Occupational Code



## Only 21% of Marketing Managers have degrees in Marketing; many other degrees are relevant.

Field of Degree by Occupation  
Marketing Managers SOC Code



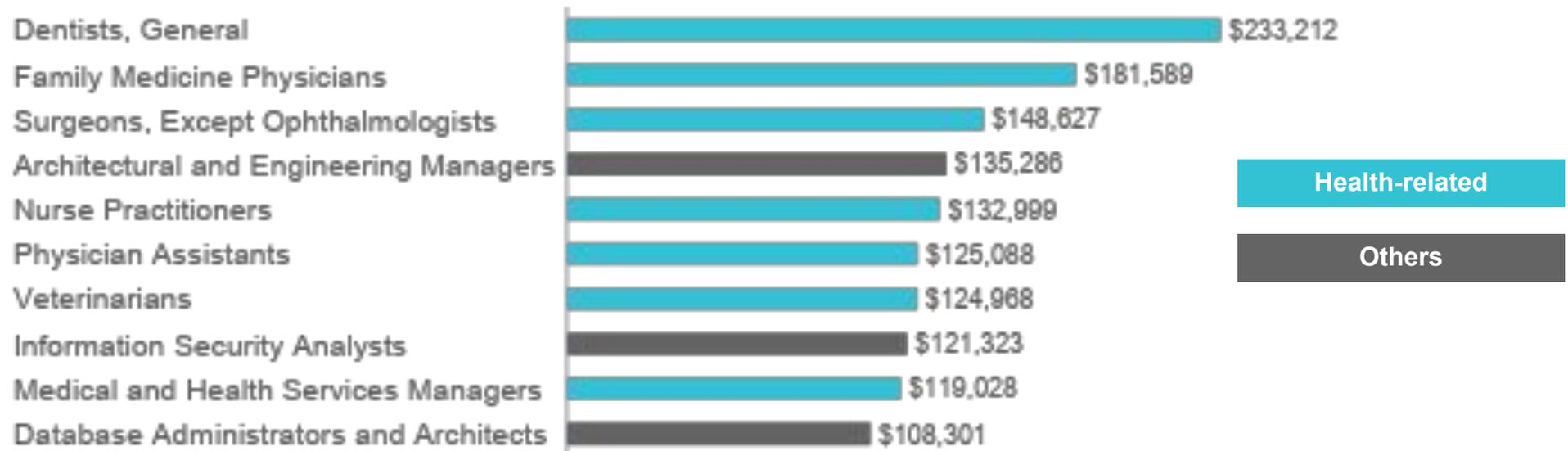
**In December, of the highest in-demand occupations, RN is trending higher compared to its average over the trailing six months. The others are trending lower.**

December Highest Job Postings Trailing Six Months  
 Bachelor's Degree and Above  
 By Standard Occupational Code



## Healthcare dominates high-wage occupations for jobs for bachelor's and above degree-holders.

December 2022 Highest Average Wages  
By Standard Occupational Code



# Agenda

## Student Demand

- **Current Demand: Enrollment**
- **Leading Indicators: Google Searches**
- **Non-Degree Courses**

## Employment: Current Indicators

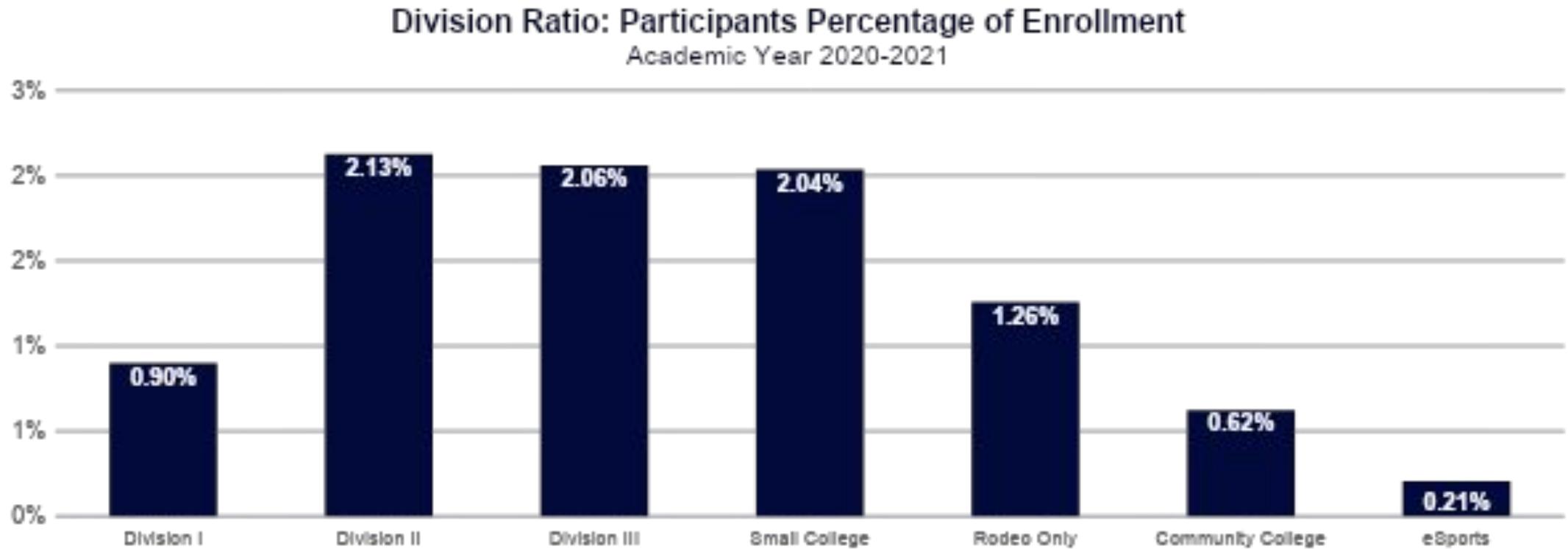
## College Athletics

## Program of the Month

## Summary

## Athletics Benchmarking

In 2020-21, Division II sports had the highest percentage of participants per student enrollment.



Source: Athletics Benchmarking Dashboard

## Athletics Benchmarking: Participants per Team, Division III

In 2020/21, men's football had the highest average number of participants in Division III athletics



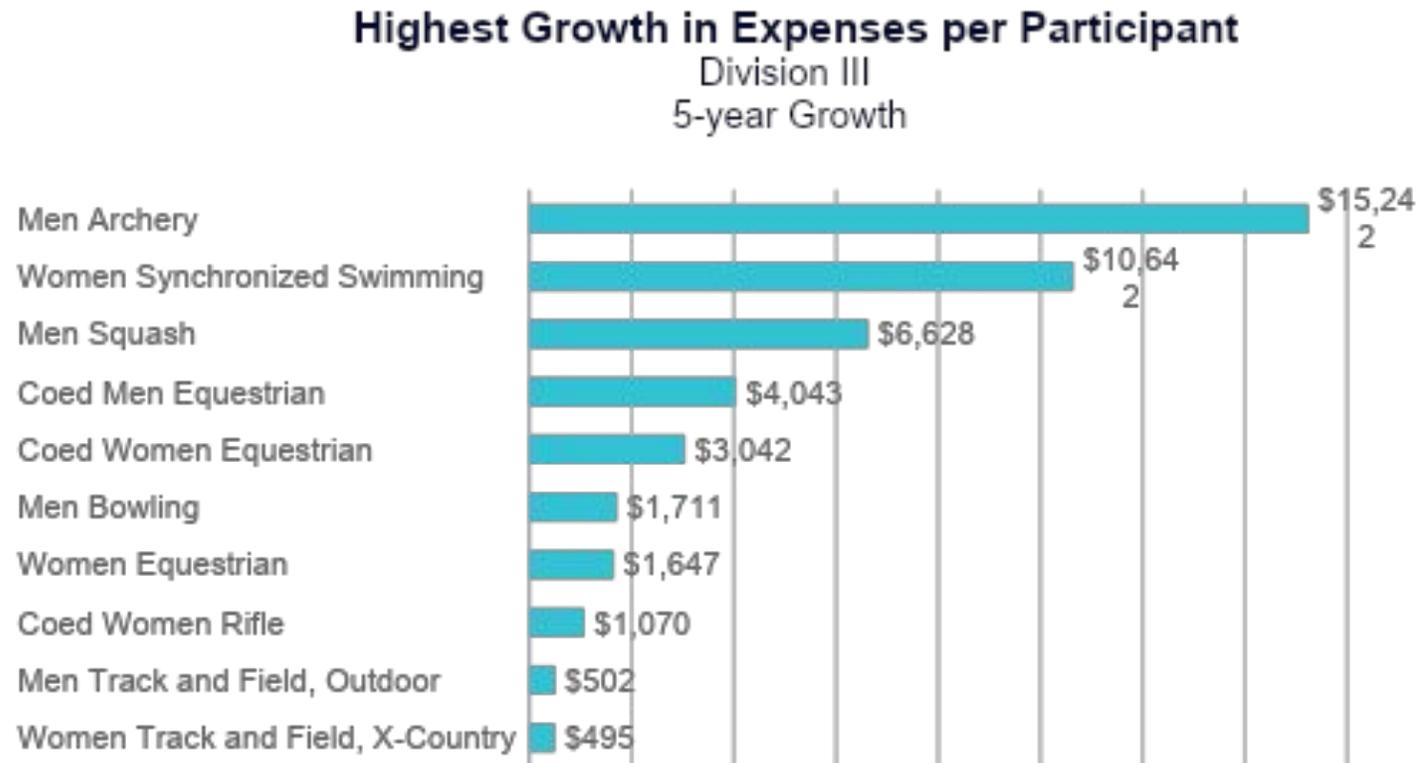
## Athletics Benchmarking: Expenses per Participant, Division III

Women’s synchronized swimming had the highest expenses in Division III athletics.



## Athletics Benchmarking

From 2015/16 to 2020/21, men’s archery had the highest growth in expenses.



# Agenda

## Student Demand

- **Current Demand: Enrollment**
- **Leading Indicators: Google Searches**
- **Non-Degree Courses**

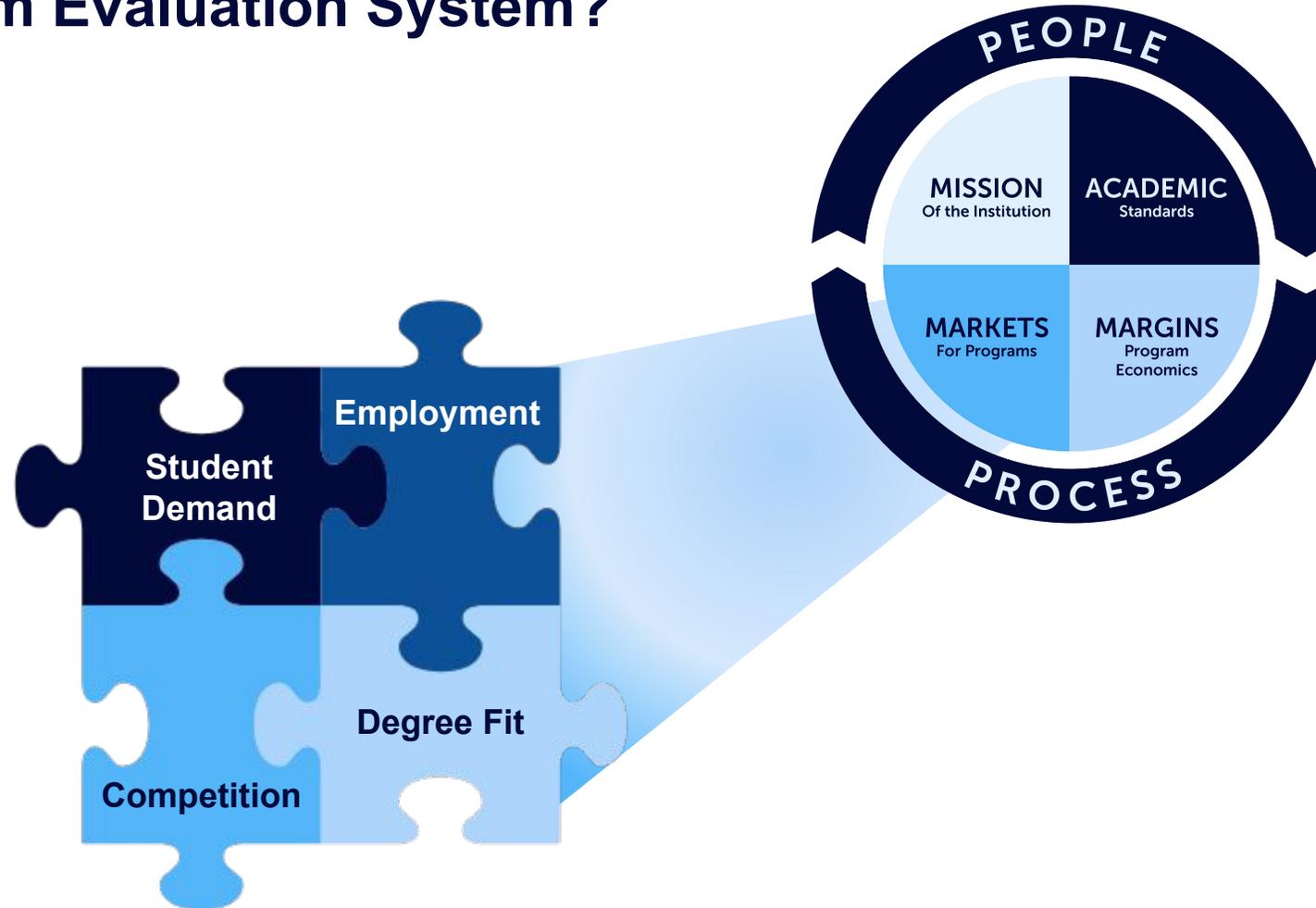
## Employment: Current Indicators

## College Athletics

## Program of the Month

## Summary

## What is a Program Evaluation System?



## Program Markets: Program Rank

We score on Student Demand, Employment, Competitive Intensity, and Degree Fit.

- Let's focus on the national market for a Master's in Artificial Intelligence.

### US Program Ranking Master's Programs

CIP	Total Percentile	Student Demand Percentile	Competitive Intensity Percentile	Employment Percentile	Degree Fit Percentile
22.0101 Law	93	95	83	98	0
51.1201 Medicine	93	87	83	100	0
23.0101 English Language and Lit., Gen'l	92	97	4	50	50
50.0702 Fine/Studio Arts, General	92	96	19	65	50
27.0101 Mathematics, General	92	95	1	89	50
40.0501 Chemistry, General	92	94	19	78	50
11.0102 Artificial Intelligence	92	94	13	81	50
14.0701 Chemical Engineering	92	93	13	83	50
09.0102 Mass Communication/Media Studies	92	93	7	86	50
11.0199 Computer and Information Sciences, Other	92	93	7	86	50
50.0401 Design and Visual Comm., Gen'l	92	92	31	81	50
45.0401 Criminology	92	91	89	71	50
09.0401 Journalism	92	91	83	74	50
22.0299 Legal Research/Adv. Prof. Studies, Other	92	91	83	74	50
42.2799 Research and Experimental Psychology, Other	92	90	50	81	50
14.3601 Manufacturing Engineering	92	87	19	92	50
11.0804 Modeling, Virtual Environments and Simulation	92	78	97	81	50
44.0502 Education Policy Analysis	92	68	99	50	50
52.0907 Meeting and Event Planning	92	68	89	93	50

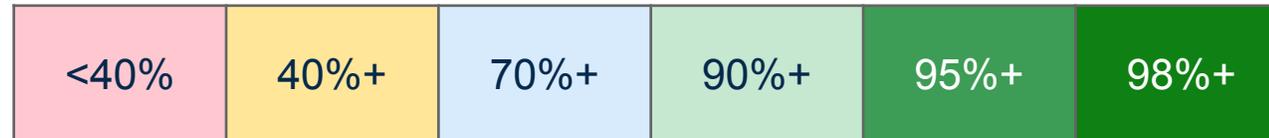
Total Percentile	0	20+	40+	70+	90+	95+	98+	100
Total Score	-33	-18	-4	3	13	20	29	60

Source: PES Markets

## Program Scorecard: Percentiles

All data are color-coded by their percentile rank in the local market compared to over 1,400 IPEDS programs (CIP codes).

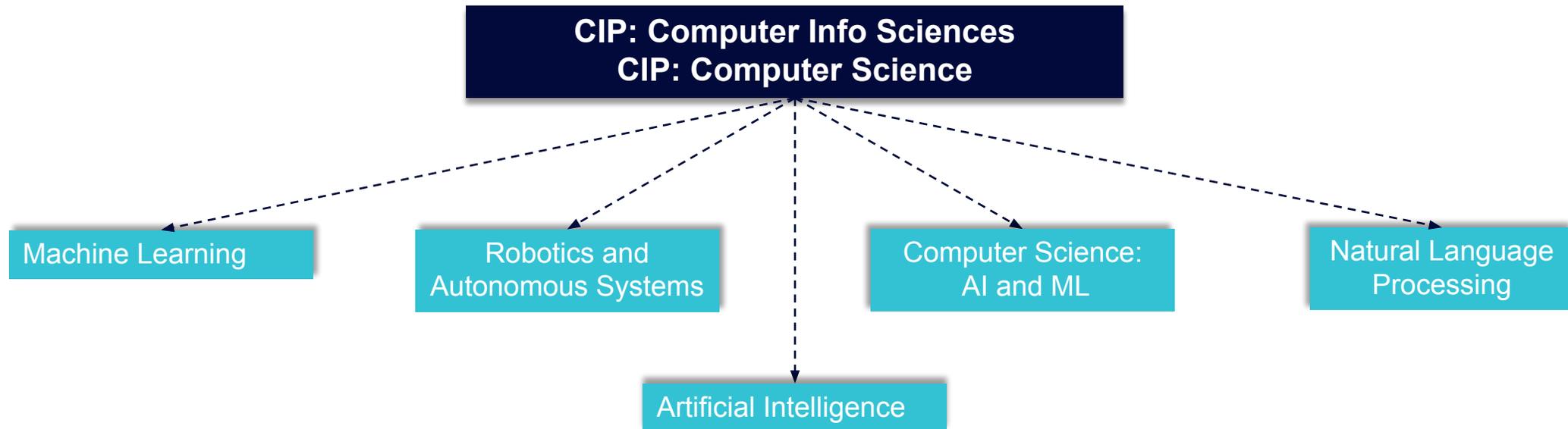
### Percentile Color-Code:



**There are more Artificial Intelligence completions than are reported to IPEDS.**

**About 25 institutions report AI completions under a different CIP code.**

- The majority of completions are reported to CIP codes for Computer and Info Sciences or Computer Science.



## Program Scorecard: Student Demand

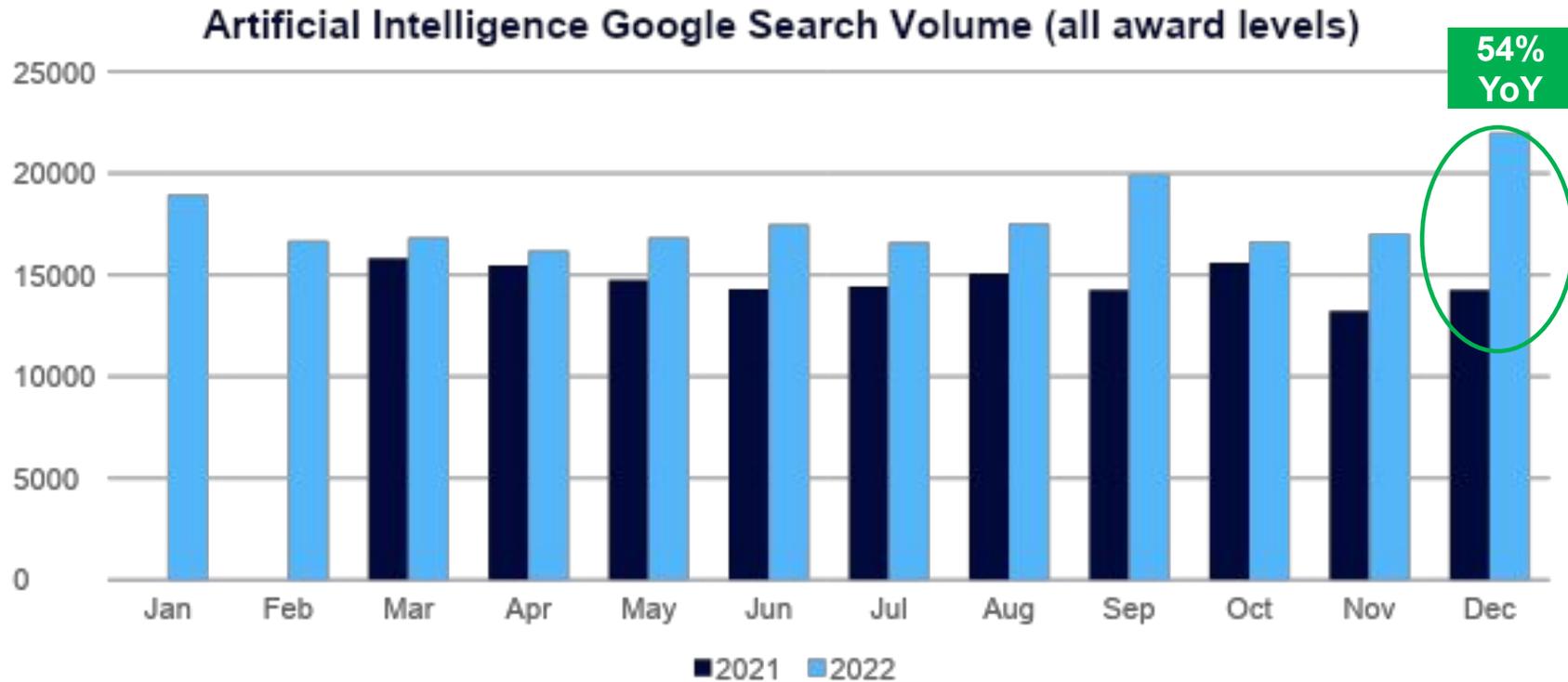
**A Master's in Artificial Intelligence scores in the 94<sup>th</sup> percentile for Student Demand.**

- New student enrollment is strong and grew 338% year-over-year.
- There is high international interest for this program.
- Completions volume is at the 78<sup>th</sup> percentile and grew 19% year-over-year.
- Google searches are healthy and grew 7% year-over-year trailing three months.

### Student Demand Score: 16 Percentile: 94

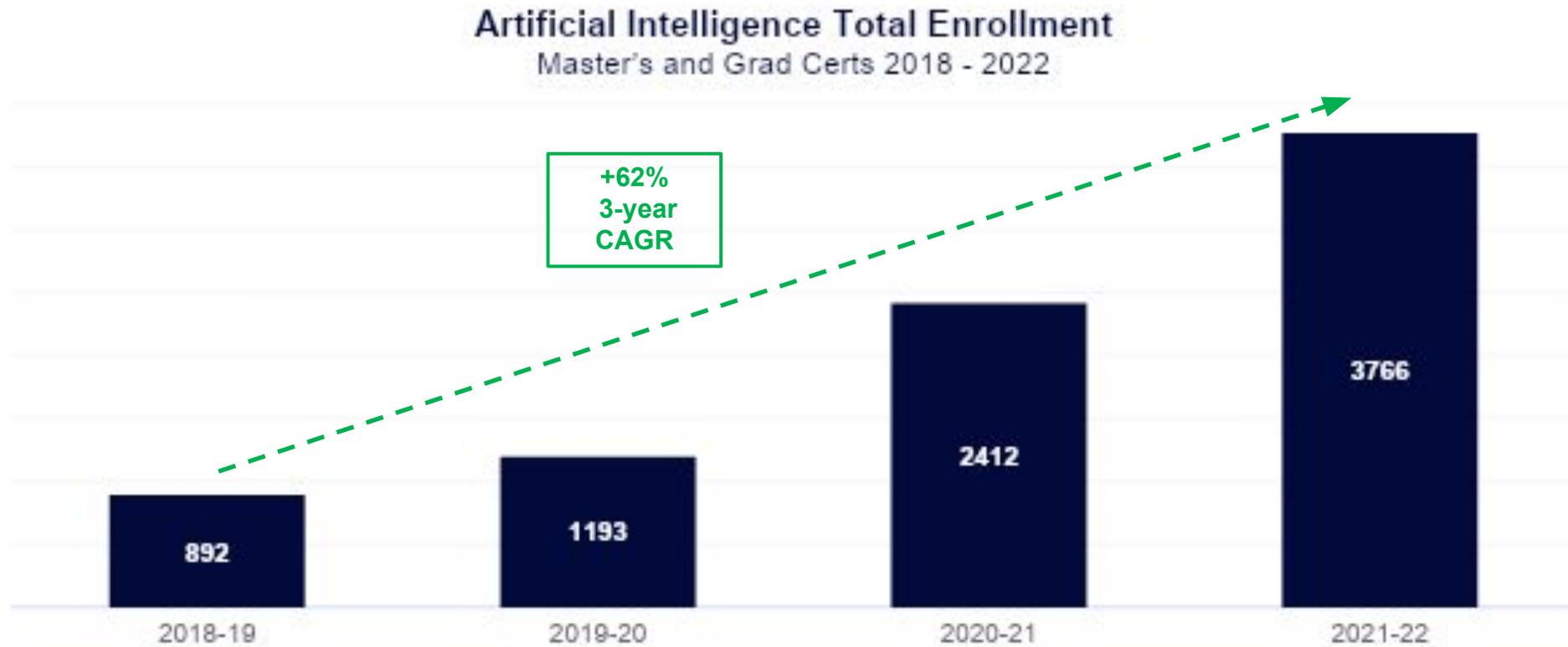
Catego...	Pctl	Criterion	Value	Score
Size	88	Google Search Volume (3 Months)*	112,080	2
	98	International Page Views (12 Months)	8,118	NS
	96	New Student Enrollment Volume (12 Mo.)	245	6
	82	On-ground Completions at In-Market Institutions	311	1
	0	Online Completions by In-Market Students	0	0
	78	Sum of On-ground and Online Completions	311	0
Growth	81	Google Search YoY Change (Units)*	6,960	1
	98	New Student Enrollment Vol. YoY Change (Units)	189	3
	90	Completion Volume YoY Change (Units)	49	2
	48	Google Search YoY Change (%)*	7%	0
	96	New Student Enrollment Vol. YoY Change (%)	338%	1
	77	Completion Volume YoY Change (%)	19%	0

# Google searches: In December 2022, searches for Artificial Intelligence programs grew 54% year-over-year for all award levels.



Source: PES Keyword Search Dashboard

**Total enrollment in Master's in Artificial Intelligence programs rose 62% annually over the past three years.**



Source: Gray Analysis of National Student Clearinghouse

## Program Scorecard: Employment

### Artificial Intelligence ranks in the 81<sup>st</sup> percentile for Employment.

- Direct prep job volume is modest for this program.
  - It rose 1.4% year-over-year.
  - It rose 4.2% over the last three years.
- Job postings per graduate are moderate.
- BLS mean wages are in the 76<sup>th</sup> percentile.

#### Employment\*

Score: 5 Percentile: 81

Category	Pctl	Criterion	Value	Score
Size: Direct Prep	50	Job Postings Total (12 Months)*	1,569	0
	43	BLS Current Employment*	3,430	0
	41	BLS Annual Job Openings*	293	0
Growth (Direct Prep)	86	BLS 1-Year Historical Growth*	1.4%	0
	88	BLS 3-Year Historic Growth (CAGR)*	4.2%	2
	90	BLS 10-Year Future Growth (CAGR)*	1.6%	0
Saturation (Direct Prep)	72	Job Postings per Graduate*	4.1	1
	62	BLS Job Openings per Graduate*	0.8	0
Wages (Direct Prep)	79	BLS 10th-Percentile Wages*	\$50,728	NS
	76	BLS Mean Wages*	\$83,282	2

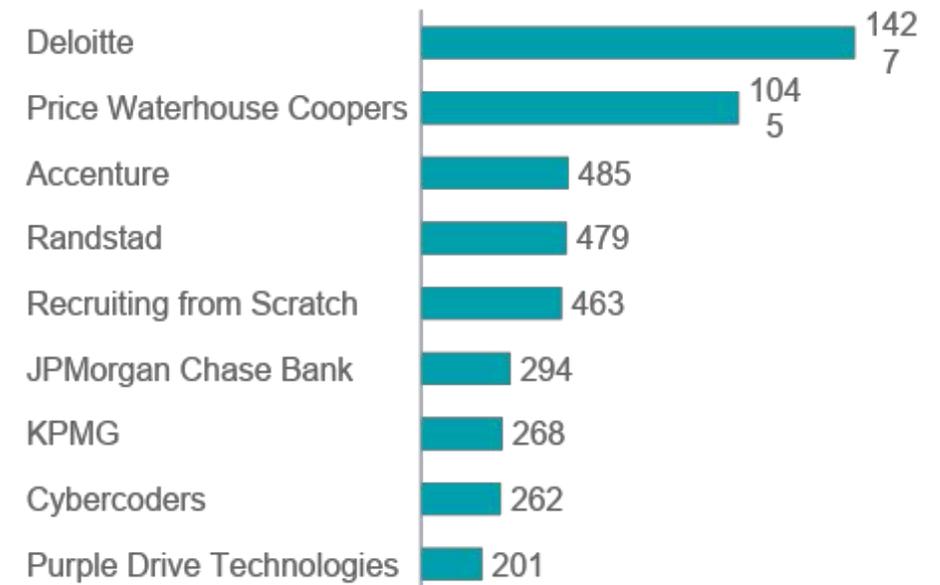
**In December 2022, data analysts had the highest volume of job postings for Artificial Intelligence graduates.**

**Deloitte had the highest postings volume for AI graduates.**

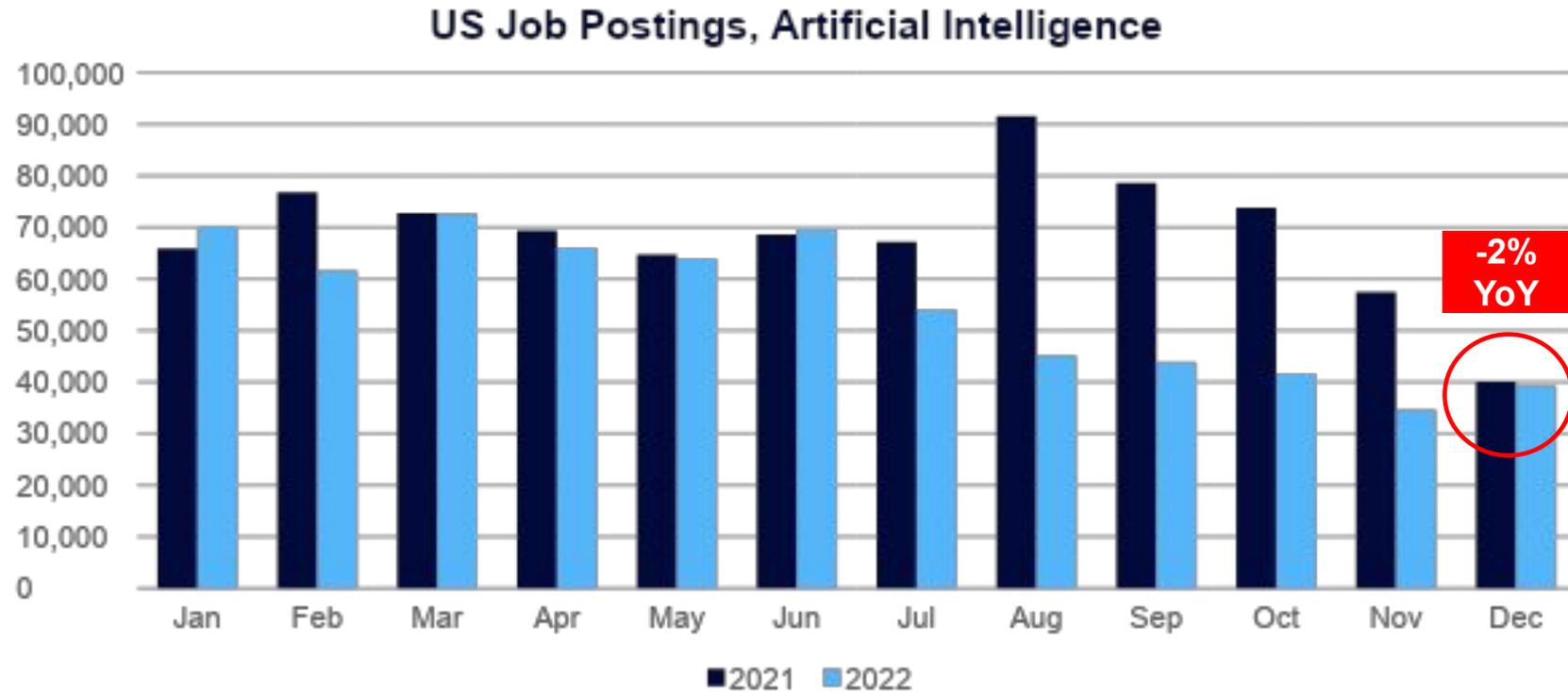
**Highest Job Postings**  
By Job Posting Title



**Companies with Highest Posting Volume**  
By Standard Occupational Code



**In December, Job Postings for Artificial Intelligence fell 2% year-over-year.**



## Program Scorecard: Competitive Intensity

Artificial Intelligence is a competitive program – but there may be opportunity online.

- 19 institutions have Master's in AI graduates
  - No online completions are reported.
- Average and median program sizes are small.
- Median size grew by 2% year-over-year.
- Marketing costs are high for this program
  - 79<sup>th</sup> percentile for a Google click
  - 81<sup>st</sup> percentile competition index

### Competitive Intensity

Score: -6 Percentile: 13

Category	Pctl	Criterion	Value	Score
Volume of In-Market Competition	76	Campuses with Graduates**	19	-2
	97	Campuses with Grads YoY Change (Units)**	7	-2
	0	Institutions with Online In-Market Students**	0	NS
In-Market Program Sizes	83	Average Program Completions	16	0
	17	Median Program Completions	2	-2
	90	YoY Median Prog. Compl. Change (Units)	1	1
	79	YoY Median Prog. Compl. Change (%)	8%	0
In-Market Saturation	79	Google Search * Cost per Click**	\$11	-1
	81	Google Competition Index**	0.54	0
National Online Competition	0	National Online Institutions (Units)**	0	NS
	0	Nat'l Online % of Institutions	0	NS
	0	Nat'l Online % of Completions	0	NS

## Program Scorecard: Degree Fit

**A master's degree is an appropriate award level for Artificial Intelligence.**

- 80% of enrollments are at the master's level.
- However, almost half of the workforce hold a bachelor's degree.

### National Completions by Level

Score: 0

Award Level	Completions (National)	Completions (Market)	Enrollment (Market)
Certificate	0%	0%	0%
Associates	0%	0%	0%
Bachelors	10%	10%	18%
Postbaccalaureate Certificate	4%	4%	0%
<b>Masters</b>	<b>77%</b>	<b>77%</b>	<b>80%</b>
Post-masters Certificate	0%	0%	0%
Doctoral	8%	8%	1%
Unknown	0%	0%	0%

### Degree Fit:

Score: 0 Percentile: 50

### National Workforce Ed. Attainment

Score: 0

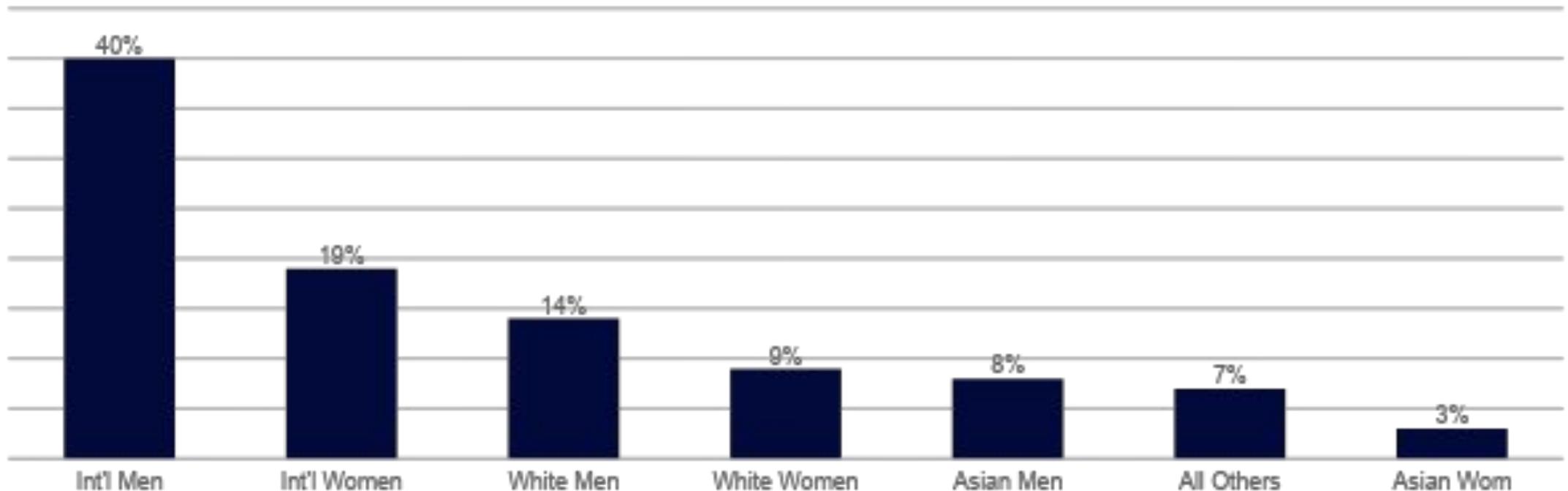
Award Level	BLS Educational Attainment
No College	4%
Some College	10%
Associates	6%
<b>Bachelors</b>	<b>48%</b>
Masters	28%
Doctoral	5%

## Demographics

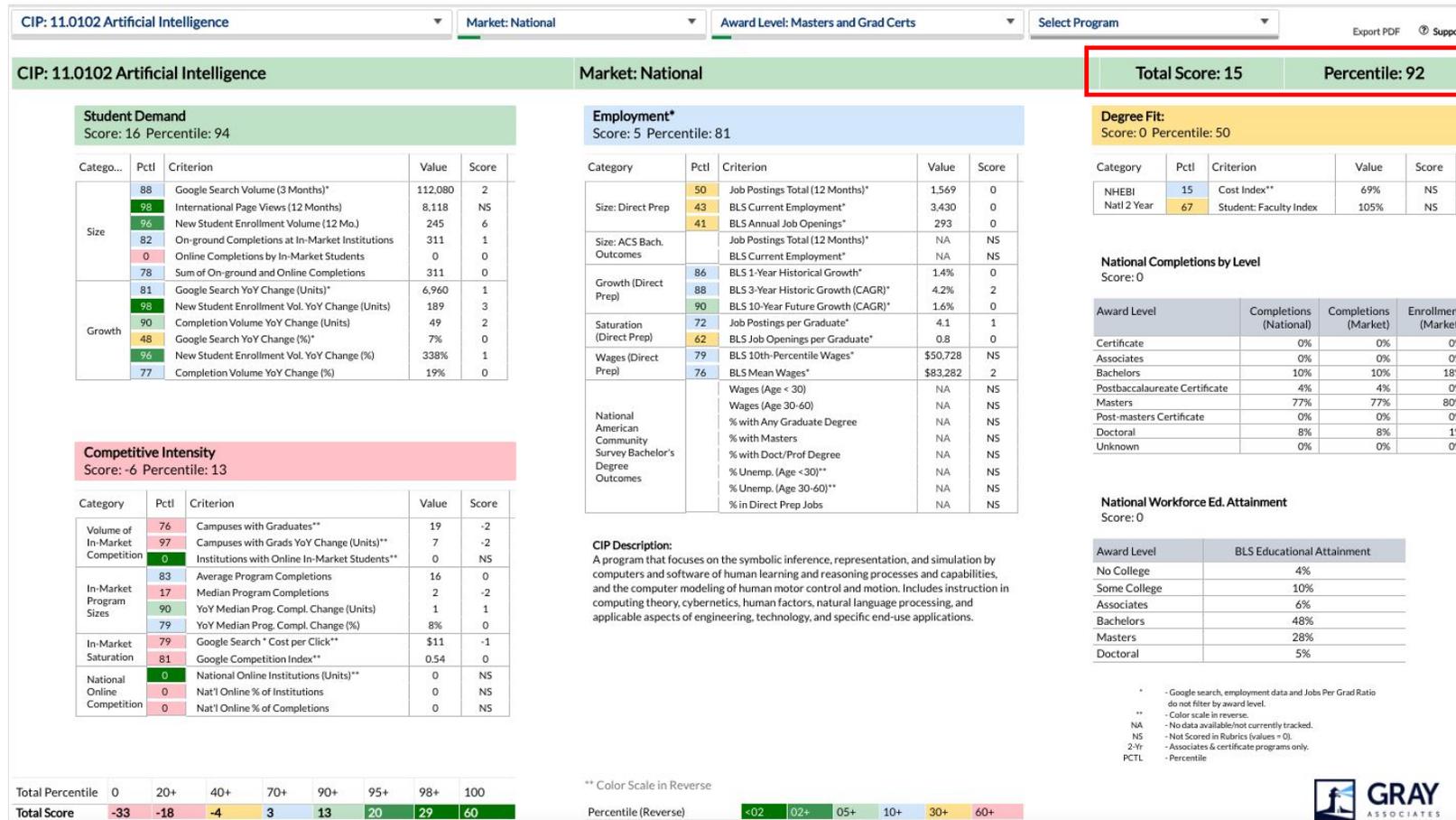
**Almost 60% of completions are by international students.**

- In all groups, men completed more than women.

2020 Completions by Demographic Group



# Program Scorecard: A Master's in Artificial Intelligence ranks in the 92<sup>nd</sup> percentile.



# Agenda

## Student Demand

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- **Non-Degree Courses**

## Employment: Current Indicators

## College Athletics

## Program of the Month

## Summary

## Summary

- In December, US Google searches for academic programs increased 23% year-over-year.
  - Cybersecurity was the fastest-growing program for searches.
- In academic year 2021-2022, the fastest-growing master's degree enrollment was Mechatronics.
  - At the bachelor's level, Cybersecurity grew the fastest.
- Job postings volume is finally trending up as of December.
- The creator/influencer economy is an emerging academic program and Coursera has already enrolled over 40,000 people in its Influencer Marketing certificate.
- Demand for a Master's in Artificial Intelligence is high.
  - New student enrollment increased over 300% year-over-year.
  - There is high interest from international students.
  - Employer demand is unclear. Logically, it should be high, but numbers are falling, or perhaps moving to data science
  - This program is competitive, but data indicates that there is an opportunity in the online space or international.

## Upcoming Webinars

Topic	Date
Demand Trends Webcast: Community Colleges	<i>Wednesday</i> February 22 <sup>nd</sup> PM ET
Demand Trends Webcast: Bachelor's and Above	<i>Thursday</i> February 23 <sup>rd</sup> pm ET

Contact:  
Robert Atkins  
[RobertGrayAtkins.com](http://RobertGrayAtkins.com)

