Importing and Visualizing Computer Science Graduation Data from the Urban Institute’s Education Data Data Portal

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Importing and Visualizing Computer Science Graduation Data from the Urban Institute’s Education Data Portal

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Education Data Portal Overview
Data in the Education Data Portal

- All major national datasets on schools, districts, and colleges.

- Institution-level data (not student-level data)

- Institutions are linked to geographies, such as neighborhoods, counties, and cities
PK-12 Data

- School enrollment
- Student demographics
- Teachers employed
- Test scores
- Student discipline
- District finance
- Course offerings
Higher Education Data

- Institutional Characteristics
- Admissions
- Enrollment
- Student demographics
- Retention and graduation rates
- Degrees awarded by major
- Institutional finances
- Tuition and financial aid
- Post-college earnings
- Student loan repayment
Access Tools

- API (all data)
- File downloads (all data)
- Stata/R packages (all data)
- Data Explorer point-and-click web tool (most data)
- School Enrollment Tool (enrollment trends by race/ethnicity for individual schools)
- CIP 11 Tableau Connector (computing degree awards data by race/ethnicity and gender)
Education Data at Your Fingertips

The best policy decisions are those based on evidence and fact. The Education Data Explorer allows you to build your own dataset, by narrowing your search by education level, geography, timeframe, and indicator. The Explorer makes it easier than ever to generate rigorous, accurate, and actionable insights to improve student outcomes.
READY TO GET STARTED?

Choose Education Level

K-12

COLLEGE
Choose Geography and Timeframe

**STATE(S)**
- District of Columbia
- Maryland
- Virginia

**TIMEFRAME**
- Most recent year available

Selecting "Most recent year available" will output the most recent data available for each selected indicator, which can differ across datasets.
Find Data On

Find data on
Select all that apply

SCHOOL CHARACTERISTICS

School Characteristics

- Geographic and identification information

Absenteeism

College Readiness

Course Offerings

Demographics

Discipline

School Safety

Student Outcomes

Teachers and Staff

Select all options

- School level
- School type
- Status at start of school year
- Lowest grade offered
- Highest grade offered
- Elementary school indicator (Center on Education Data and Policy variable)
Your request generated 2 data files. Click to download.

EducationDataPortal_02.09.2022_datadictionary.csv (12 rows)
EducationDataPortal_02.09.2022_Schools.csv (6 rows)

Click to download a zip file with all 2 files.

EducationDataPortal_02.09.2022_all_files.zip
Explore Your School’s Changing Demographics

Last updated June 23, 2021

US schools have become more racially and ethnically diverse over the past few decades, but these changes have played out differently across the country. Understanding a school’s demographics can inform conversations around school segregation, redistricting, funding, and equity.

Search for your PK-12 school (prekindergarten through 12th grade) to see how student enrollment by race or ethnicity has changed.

District of Columbia

Seaton ES, Washington, DC
Enrollment in Seaton ES

Number of students

- Total
- Asian
- Black
- Hispanic
- White
- American Indian or Alaska Native
- Native Hawaiian or other Pacific Islander
- Two or more races

Year range: 1989 to 2019
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#LiveAtUrban
Monday, February 14, 2022

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Callista Chen, Matthew Chingos, Michelle Menezes, Clayton Seraphin
What is a Web Data Connector?

- Allows users to connect to data that is accessible over the web
- You can use a connector that has already been built or create your own
- You can look at the Tableau Web Data connector [Community Portal](https://community.tableau.com) to find various connectors built by the Tableau Community
What does our connector do?

- Our connector pulls **IPEDS Awards Data for CIP code 11** from the Education Data Portal
  - **IPEDS**: The Integrated Postsecondary Education Data System
  - **Awards**: certificate or degree awards
  - **CIP Code**: 2-digit Classification of Instructional Programs, a detailed coding system for postsecondary instructional programs
    - **CIP Code 11**: Computer and information sciences and support services
- Data is at the institution level
- Data is disaggregated by sex and race
Examples of organizations for which analyzing this data could be useful

- Nonprofits that work to increase diversity in computing (including Reboot Representation)
- Nonprofits that do mentoring, tutoring, or scholarships for university students
- Companies that want to recruit computer science graduates with computing degrees
Examples of questions these organizations might aim to answer

- Which universities have the most Black, Latina, or Native women graduating with computing degrees?
- Which of those are HBCUs or Tribal Colleges?
- How have those results changed over time?
- Which universities are closest to gender parity? We can look into their policies and practices.
- How do the graduation rates differ between public and private universities?
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Centering Black, Latina, and Native American Women in Computing
Percentage of Black, Latina, and Native American (BLNA) women receiving computing bachelor’s degrees.
Through collective action, we can change the story.
We’re doubling the number of Black, Latina, and Native American (BLNA) women with computing degrees.

- Offer diverse on-ramps for computing
- Provide access to technology and computing experiences
- Build confidence in her abilities
- Cultivate a community of supportive peers
- Create continuity between computing experiences
- Ensure adult gatekeepers (family, teachers, counselors) are encouraging and inclusive
- Create a sense of belonging
- Foster interest in computing careers
How?

DATA + TRUST → RECRUITMENT

RECRUITMENT ∩ RETENTION
How do we use data?

1. To find the students
2. To measure the impact of our investments
Empowering the next generation of women in tech

Virtual community of 10,000+ college & early career women

Skill development for Black & Latina college students

Exposure to AI, cyber, data science & machine learning
Where should Black Wings and Latinas de RTC expand?

Which universities are producing the most BLNA women graduating with computing degrees?

How do graduation rates change at a given university after RTC programs begin engaging students there?
Only 5 out of the 24 institutions with 10 or more Black women graduating with computing bachelor degrees are HBCUs

<table>
<thead>
<tr>
<th>Institution</th>
<th>State</th>
<th>Number of Black women graduating with computing degrees in 2018</th>
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</thead>
<tbody>
<tr>
<td>University of Maryland-University College</td>
<td>MD</td>
<td>119</td>
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<tr>
<td>Georgia State University</td>
<td>GA</td>
<td>37</td>
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<tr>
<td>Kennesaw State University</td>
<td>GA</td>
<td>25</td>
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<tr>
<td>University of North Carolina at Greensboro</td>
<td>NC</td>
<td>22</td>
</tr>
<tr>
<td>University of Maryland-College Park</td>
<td>MD</td>
<td>19</td>
</tr>
<tr>
<td>Alabama A &amp; M University</td>
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<td>17</td>
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<tr>
<td>Towson University</td>
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<td>16</td>
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<tr>
<td>Virginia Commonwealth University</td>
<td>VA</td>
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<tr>
<td>University of Maryland-Baltimore County</td>
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<td>Florida State University</td>
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<td>George Mason University</td>
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<tr>
<td>CUNY Lehman College</td>
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<td>Alabama State University</td>
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</tr>
<tr>
<td>University of North Carolina at Charlotte</td>
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<td>Spelman College</td>
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<tr>
<td>North Carolina A &amp; T State University</td>
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<tr>
<td>Georgia Gwinnett College</td>
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<tr>
<td>Florida Agricultural and Mechanical University</td>
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</tr>
<tr>
<td>Broward College</td>
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</tr>
</tbody>
</table>

**MSI Type**

- **HBCU**
- **HSI**
- **N/A**

**SOURCE:** National Center for Education Statistics (IPEDS), 2017-2018 Final Release Data
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Release information

- Tool will be made public, along with documentation & source code, in late February
- Tool will be accessible from the Tableau Connector Community Page
- Goals for future:
  - Expand amount of IPEDS data pulled; remove limit on years and FIPS
  - Pull various data sets from education data portal
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