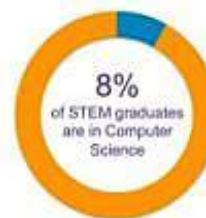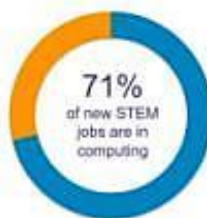# THE SOUTH CAROLINA INFORMATION TECHNOLOGY WORKFORCE 2017 CHALLENGES & OPPORTUNITIES

EDUCATION DATA

Appendix C

Support K-12 Computer Science Education in South Carolina

Computer science drives job growth and innovation throughout our economy and society. Computing occupations are the **number 1 source of all new wages in the U.S.** and make up two-thirds of all projected new jobs in STEM fields, making Computer Science one of the most in-demand college degrees. And computing is used all around us and in virtually every field. It's foundational knowledge that all students need. But computer science is marginalized throughout education. Fewer than half of U.S. schools offer any computer science courses and only 8% of STEM graduates study it. We need to improve access for all students, including groups who have traditionally been underrepresented.

71% of new STEM jobs are in computing

8% of STEM graduates are in Computer Science

93% of parents want their child's school to teach computer science, but only 40% of schools teach it.

50% of Americans rank computer science as one of the two most important subjects of study after reading and writing.

75% of Americans believe computer science is cool in a way it wasn't 10 years ago.

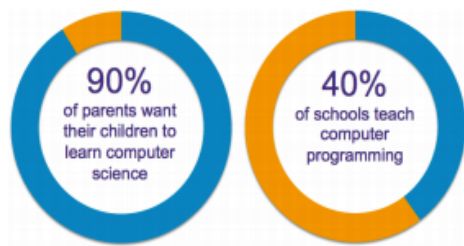Students who learn computer science in high school are 6 times more likely to major in it, and women are 10 times more likely.

67% of parents and 56% of teachers believe students should be required to learn computer science.

Computer science in South Carolina

- South Carolina currently has **3,806 open computing jobs** (3.6 times the average demand rate in South Carolina).
- The average salary for a computing occupation in SC is **$75,259,** which is significantly higher than the average salary in the state ($41,530). The existing open jobs alone represent a **$286,435,754 opportunity** in terms of annual salaries.
- South Carolina had only **529 computer science graduates** in 2015; only **25%** were female.
- Only **374 high school students in** South Carolina took the AP Computer Science exam in 2016; only 19% were female; only 12 students were Hispanic or Latino; only 27 students were Black; only 1 student was Native American or Alaska Native; no students were Native Hawaiian or Pacific Islander.
- Only **32 schools** in SC (11% of SC schools with AP programs) offered the AP Computer Science course in 2015-2016. There are fewer AP exams taken in computer science than in any other STEM subject area.
- Universities in South Carolina did not graduate a single new teacher prepared to teach computer science in 2016.

90%
of parents want their children to learn computer science

40%
of schools teach computer programming

What can you do to improve K-12 CS education?

1. Call on your school to expand computer science offerings at every grade level.
2. Ask your local school district to allow computer science courses to satisfy a core math or science requirement.
3. Visit **www.code.org/educate/3rdparty** to find out about courses and curriculum from a variety of third parties, including Code.org.
4. Visit **www.code.org/promote/SC** to learn more about supporting computer science in your state.
5. Sign the petition at **www.change.org/computerscience** to join 100,000 Americans asking Congress to support computer science.

Code.org's Impact in South Carolina

There are 4,664 teacher accounts and 161,868 student accounts on Code.org in South Carolina.

Code.org, its regional partner(s) the STEM Center of Excellence at the Citadel, and 3 K-5 facilitators have provided professional learning for 381 teachers in CS Fundamentals (K-5), 8 teachers in Exploring Computer Science or Computer Science Discoveries, and 13 teachers in Computer Science Principles in South Carolina.

> ## "Computer Science is a liberal art: it's something that everybody should be exposed to and everyone should have a mastery of to some extent."
>
> — Steve Jobs

What can the federal government do to support computer science in grades K-12?

Access to computer science courses is a bipartisan issue that can be addressed without adding to the Federal budget. Tell your representatives in Washington, D.C. that you support funding to expand access to this foundational 21st-century subject in your community that will America remain secure and globally competitive. Over 100,000 Americans, CEOs of the largest companies in every major industry, 29 governors, and major K-12 education leaders have all joined forces to call on Congress to support this idea. You can see their open letter (and add your name in support) at **www.change.org/computerscience**.

States and local school districts need to adopt a broad policy framework to provide all students with access to computer science. The following nine recommendations are a menu of best practices that states can choose from to support and expand computer science. Not all states will be in a position to adopt all of the policies. Read more about these 9 policy ideas at **https://code.org/files/Making_CS_Fundamental.pdf** and see our rubric for describing state policies at **http://bit.ly/9policiesrubric.**

☐ South Carolina **has not** yet created a state plan for K-12 computer science. A plan that articulates the goals for computer science, strategies for accomplishing the goals, and timelines for carrying out the strategies is important for making computer science a fundamental part of a state's education system.

☑ South Carolina has established K-12 computer science standards.

☐ South Carolina **does not yet** provide dedicated funding for rigorous computer science professional development and course support. Although funds may be available via broader programs, the state can strengthen its computer science programs by creating specific opportunities to bring computer science to school districts, such as matching fund programs.

☑ South Carolina has clear certification pathways for computer science teachers.

☐ South Carolina **has not yet** established programs at institutions of higher education to offer computer science to preservice teachers. The computer science teacher shortage can be addressed by exposing more preservice teachers to computer science during their required coursework or by creating specific pathways for computer science teachers.

☐ South Carolina **does not yet** have dedicated computer science positions in state or local education agencies. Creating a statewide computer science leadership position within the state education agency can help expand state-level implementation of computer science education initiatives. Similar positions at the local level could support districts' expansion of course offerings and professional development.

☐ South Carolina **does not yet** require that all secondary schools offer computer science. The state can support the expansion of computer science courses by adopting policies that require schools to offer a computer science course based on rigorous standards, with appropriate implementation timelines and allowing for remote and/or in-person courses.

☐ South Carolina **does not yet** allow computer science to count for a core graduation requirement. States that count computer science as a core graduation requirement see 50% more enrollment in their AP Computer Science courses and increased participation from underrepresented minorities. Find out how other states allow computer science to count towards graduation at **http://bit.ly/9policies.**

☐ South Carolina **does not yet** allow computer science to count as a core admission requirement at institutions of higher education. Admission policies that do not include rigorous computer science courses as meeting a core entrance requirement, such as in mathematics or science, discourage students from taking such courses in secondary education. State leaders can work with institutions of higher education to ensure credit and articulation policies align with secondary school graduation requirements.

Source:https://code.org/advocacy/state-facts/SC.pdf

The States That College Graduates Are Most Likely to Leave

Quoctrung Bui @qdbui NOV. 22, 2016

This year's election has forced Americans to take notice of class divisions between workers. And while these divisions may at first ring of lazy stereotypes — the rural Rust Belt worker without a college degree and the coastal urban college-educated worker — they're rooted in a real dynamic. Many of the most skilled workers — young people with college degrees — are leaving struggling regions of America for cities, specifically for cities in Southern and coastal states.

There are clear economic reasons for their choice. Dense metro areas tend to produce more jobs and make workers more productive. Wages, for all kinds of workers, are also higher.

In theory, these incentives should prompt workers of all levels of education to move to metro areas. But moving outside one's region is relatively rare these days, and even more rare for someone without a college degree.

Moving is actually quite uncommon in advanced economies. The United States has been one of the exceptions. It has one of the highest rates of internal migration among advanced economies, and it has since at least the middle of the 19th century. A study comparing thousands of American and British census records between 1850 and 1880 showed that nearly two-thirds of American men moved across county lines, while only a quarter of British men did.

For America's first century, internal migration was largely driven by farming moving west to new land. But toward the end of the 19th and in the early 20th century, migration began to be driven by people moving to American cities — small and large.

This pattern added a twist after World War II, when more people began moving outside their local region, particularly to the Sunbelt. Before the 1940s, roughly 15 percent of Americans lived outside a census division in which they were born, and by 1970 that had jumped to 25 percent.

But in the 1980s, people started moving less. Internal migration has been in gradual decline ever since across all demographic groups. In the 1980s, 3 percent of men moved across state lines each year; over the last decade that figure has dropped to 1.7 percent. The decline is similar for women. Between

2001 and 2010, the demographic groups with the lowest rate of interstate migration were people with less than a high school diploma (1 percent) or nothing beyond a high school diploma (1.2 percent). Migration rates for college-educated people were roughly twice that.

In the regional competition for the most skilled and most mobile workers in America, many noncoastal states are at a disadvantage. Although they have some large cities, they tend to be farther from other large cities than is the case in the coastal areas. The economists Stuart Rosenthal and William Strange looked at the benefits of density and found that they tend to dissipate over distances greater than five miles.

This advantage provided by clusters of cities is helpful for coastal states, which tend to contain many big metro areas, like San Diego, Los Angeles, San Jose and San Francisco in California, or the so-called Acela corridor stretching from Washington to Boston. But it can be bad news for inland areas with one or two large cities that are farther apart: Omaha and Kansas City, Mo., say; or Cleveland and Columbus, Ohio.
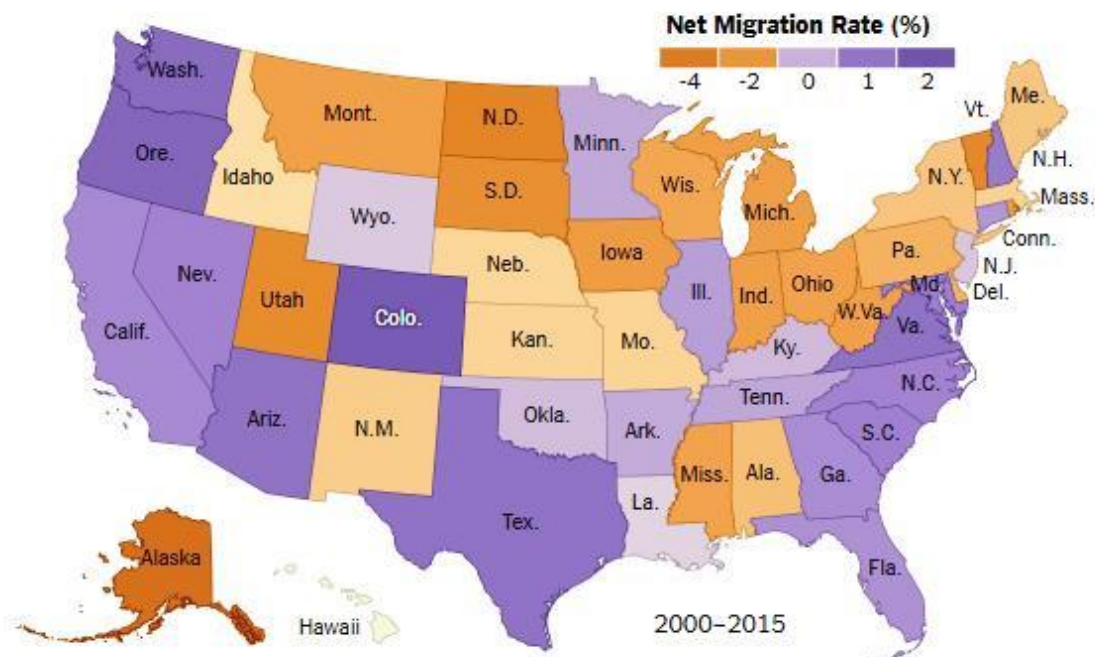
The flows of young college graduates out of a state can often be replaced by flows of young college graduates moving in. The problem that many interior states face is that young college graduates moving into the state aren't keeping up with those that are leaving.

"Lots of talented young people all over the country are eager to see new sights — what is different, and a problem for Michigan is that we have an unusually low rate of immigration," said Charley Ballard, a regional economist at Michigan State University, in an email.

Keeping young college graduates would help alleviate the effects of globalization and technological change on these local economies. It's not surprising that many states with net losses in their young and college-educated populations also showed some big gains for Donald J. Trump relative to Mitt Romney's performance in 2012.

Where Young College Graduates Tend to Move

Net migration of college educated people under 40

Note: Those who grew up in one state, went to college in another, and then moved again are counted as migrating from the state where they attended college.

Source: IPUMS-USA, University of Minnesota

The map shows the total net migration figures for those with a college degree under 40 between 2000 and 2015. (People who grew up in one state, went to college in another and then moved somewhere else are counted as migrating from the state where they attended college.) Generally, Rust Belt and Midwest states like Ohio, Michigan and Iowa, and Plains states like South Dakota and Nebraska have seen the largest net losses in younger, college-educated people.

The places that are gaining college graduates tend to be coastal and Southern states like California, Maryland, Texas and South Carolina. Two exceptions to this trend are New York and Massachusetts, states that also produce a large number of college graduates to begin with (harsh winters and a high cost of living could be factors).

One reason that inland states have a reasonable case for disappointment at not keeping their young college graduates: They're helping to pay to educate them. A majority of college graduates get their degrees from public universities, which are partly funded by state governments. Of course this doesn't diminish the other important benefits that public universities bring to each state's economy, but if states are losing more college graduates than they are holding or bringing in, they're effectively subsidizing other states' skilled labor forces.

Cities in these states do have some advantages. The cost of living is lower, mostly because housing is cheaper. Outdoor recreation is often more accessible. Still, these areas are in a bind: Without jobs to offer, luring young college-educated people is hard. At the same time, it's hard to create jobs without a college-educated labor force.

To Mr. Ballard, it's not clear that one policy proposal exists that could jump-start the process. "It really is a chicken-and-egg problem," he said. "I don't think there's anybody out there that thinks there's some quick, easy solution."

In the days when cities competed for manufacturing, advertising low wages and reliable utilities was often enough to draw businesses. Mr. Ballard pins his hopes of attracting more young, college-educated workers to Michigan on efforts to market cultural amenities and natural beauty. He points to the Grand Rapids ArtPrize, an arts festival that awards half a million dollars to artists, as something that has brought some cultural cachet to that city, Michigan's second largest.

"It's not all about jobs," Mr. Ballard said. "You've got to have it be a place where people want to live."

Source: https://www.nytimes.com/2016/11/22/upshot/the-states-that-college-graduates-are-most-likely-to-leave.html

SCHOLARSHIPS FOR WOMEN IN COMPUTER SCIENCE

ORGANIZATION	SCHOLARSHIP AMOUNT
Women In Technology Scholarship	$2,500
Scholarship For Women In Engineering	$1500 to $10,000
The Anita Borg Memorial Scholarship	$10,000
Helion Openstack Scholarship	$10,000
Women In Science Program	$60,000
G.I.R.L. Scholarships	$5000
Scholarships For Women In Computing	$1000
CREU Scholarship	$3000
Scholarships For Women Studying Information Security	$5000 to $10,000
The Clare Boothe Luce Program	Amount Varies
Chuck McLane Scholarship Award	$10,000
Vanguard Women In Technology Scholarship	Up To $10,000
STEM Scholarship	Full or partial tuition for one academic year
Scholars Program	$10,000
Horizon's Scholarship	Amount Varies
Oracle Scholarship For Excellence In Computer Science	$8,000
MCWT Foundation Scholarship	Up To $20,000

Source: www.computerscience.org/resources/women-in-computer-science

THE 20 SCHOOLS WITH THE MOST WOMEN CS GRADUATES

RANK	SCHOOL
1	OHIO UNIVERSITY
2	FLORIDA INSTITUTE OF TECHNOLOGY
3	SAINT LEO UNIVERSITY
4	PENNSYLVANIA STATE UNIVERSITY
5	CENTRAL WASHINGTON UNIVERSITY
6	MASSACHUSETTS INSTITUTE OF TECHNOLOGY
7	UNIVERSITY OF WASHINGTON
8	UNIVERSITY OF MARYLAND-UNIVERSITY COLLEGE
9	BAKER COLLEGE OF FLINT
10	HARVARD UNIVERSITY
11	SYRACUSE UNIVERSITY
12	FLORIDA STATE UNIVERSITY
13	TEXAS A & M UNIVERSITY-COLLEGE STATION
14	UNIVERSITY OF SOUTH CAROLINA-UPSTATE
15	UNIVERSITY OF NEVADA-RENO
16	UNIVERSITY OF NORTH CAROLINA-ASHEVILLE
17	JAMES MADISON UNIVERSITY
18	UNIVERSITY OF NORTH CAROLINA-CHAPEL HILL
19	CUNY BARUCH COLLEGE
20	UNIVERSITY OF WEST FLORIDA

Source: www.computerscience.org/resources/women-in-computer-science

Princeton Review Ranking: Top Undergraduate Entrepreneurship Programs in the U.S.
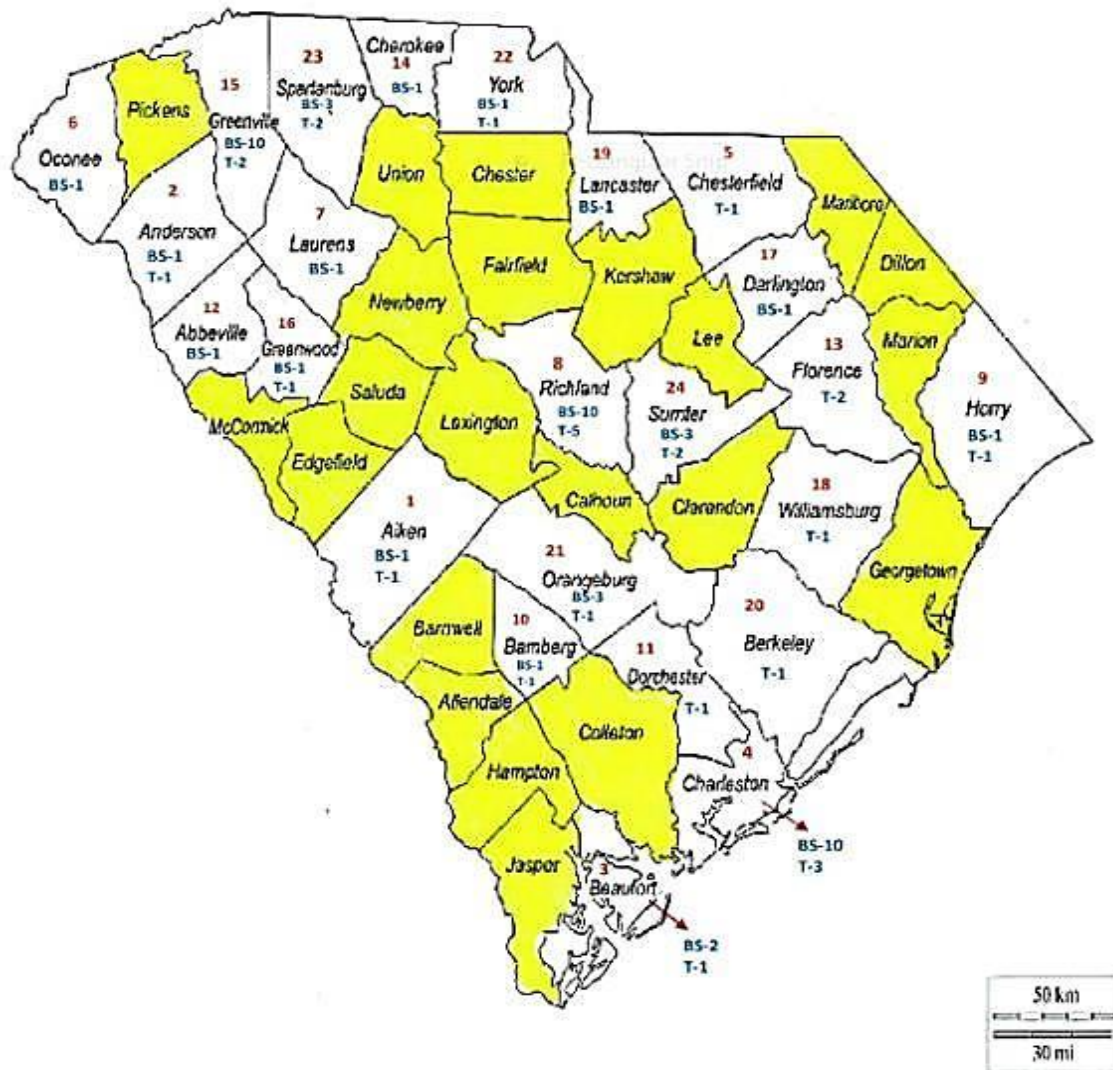
		Program Enrollment	Undergrad Enrollment	% of Total Enrollment in Program	# of courses offered	# of comp started by grads last 5 years	Funds($M) raised by grad companies	Bus Plan Compet Won$	% faculty started, run busn	# of active mentors	Near/In entrepr city
1	Babson College	2,106	2,106	100%	55	118	N/A	$34,500	100%	927	
2	University of Houston	1,306	32,915	4%	31	66	$7.2	$274,000	100%	266	Houston
3	Baylor University	2,112	13,859	15%	29	200	$2.0	$400,000	100%	113	
4	Brigham Young University	136	27,163	1%	32	256	$159.8	$200,150	90%	201	Salt Lake City
5	University of Oklahoma	253	21,844	1%	28	70	$306.7	$33,500	100%	450	
6	Syracuse University	267	15,224	2%	64	N/A	N/A	$360,000	100%	300	
7	Northeastern University	490	13,510	4%	35	400	$12.2	$448,250	60%	60	
8	Univ of Southern California	1,599	18,740	9%	23	250	N/A	N/A	91%	150	Santa Monica
9	Baruch College	647	14,857	4%	16	1000	$70.0	$250,000	75%	54	New York
10	Miami University - Ohio	997	15,813	6%	39	30	$1.6	$7,000	70%	251	Columbus
11	Temple University	506	28,287	2%	47	81	$7.3	$239,357	96%	127	
12	North Carolina - Chapel Hill	500	18,350	3%	41	N/A	N/A	N/A	95%	150	Raleigh
13	University of Dayton	227	8,529	3%	30	107	$1.1	$107,500	75%	111	Columbus
14	Clarkson University	317	3,247	10%	21	22	$0.8	$400,240	73%	51	
15	Depaul University	385	16,153	2%	16	95	$1.9	$20,000	100%	165	
16	Washington Univ in St. Louis	99	7,401	1%	30	N/A	N/A	$1,477,500	44%	192	
17	Lehigh University	666	5,062	13%	31	153	$209.4	$135,000	77%	71	
18	University of Michigan	988	28,395	3%	48	92	$1.3	N/A	57%	115	
19	University of Washington	404	30,672	1%	15	125	$8.7	$425,520	77%	219	Seattle
20	Texas Christian University	2,236	8,647	26%	29	34	$1.6	$4,000	44%	118	
21	University of Maryland	2,484	27,056	9%	101	N/A	$0.8	$114,730	66%	113	Rockville
22	University of Arizona	78	32,987	0%	15	22	$0.2	$214,550	70%	20	
23	Saint Louis University	91	8,564	1%	57	24	$0.3	$35,000	50%	61	
24	Bradley University	659	4,588	14%	25	177	$1.3	$17,000	91%	30	

Princeton Review Ranking: Top Graduate Entrepreneurship Programs in the U.S.

		Program Enrollment %	# of courses offered	# of comp started by grads last 5 years	Bus Plan Compet Won$	% faculty started, run busn	# of active mentors
1	Harvard University	95%	33	182		57%	127
2	Babson College	100%	79	181	$191,230	100%	9
3	Univ of Michigan	100%	62	106	$108,500	54%	162
4	Rice University	64%	31	22	$564,000	100%	190
5	Stanford University	81%				53%	44
6	Northwestern University	37%	31	109	$375,000	67%	255
7	Brigham Young University	75%	25	60		89%	201
8	University of Texas at Austin	75%	31	30	$20,200	91%	511
9	University of Chicago	55%	30	111		67%	200
10	University of Virginia	77%	40	62	$22,500	100%	17
11	North Carolina - Chapel Hill	73%	34		$50,000	95%	150
12	University of Washington	100%	25	140	$3,425,520	62%	284
13	University of South Florida	100%	49	115	$30,000	93%	83
14	Baruch College	20%	14	500	$250,000	75%	54
15	Washington Univ in St. Louis	23%	21		$4,330,000	37%	192
16	Temple University	93%	57	111	$239,357	100%	129
17	Syracuse University	71%	22		$360,000	100%	300
18	University of Oklahoma	26%	15	11	$54,250	100%	300
19	University of Arizona	35%	15	12	$214,550	70%	20
20	DePaul University	48%	25	102	$11,750	100%	35
21	Univ of Southern California	74%	31			92%	150
22	University of Louisville	100%	37	12	$207,000	91%	17
23	University of Utah	47%	17	196	$959,550	92%	75
24	Columbia University		38				58

Source: http://www.princetonreview.com/college-rankings/top-entrepreneur/methodology - Princeton Review ranking methodology,
http://www.entrepreneur.com/slideshow/237323

Mapping of Colleges and Universities in SC

BS: Number of colleges or technical schools in the county that offer a BA/BS or above in IT or related area.

T: Number of colleges or technical schools in the county that offer a two (2) year degree in IT program or related area.

The reference numbers in red above the county name correspond with the "County Map Location" numbers noted in the Summary of South Carolina Higher Education Institutional IT Programs that follows.

Areas highlighted in yellow indicate no college or technical schools located in the area.

www.google.com/search?q=south+carolina+map&riz

SC University, College and Technical School IT Programs

COUNTY MAP #	NAME	PUBLIC/ PRIVATE	TERM	COUNTY	RELEVANT TRAINING/DEGREE PROGRAMS
1	Aiken Technical College	Public	2- yr	Aiken	Associates in Applied Science in General Technology, Associates in Computer Technology emphasis in networking or programming, Associates in Applied Science in Network Systems Management, Certificate in Computer Networking, Certificate in Computer Game Design, Certificate in Internet Programming
1	Southern Wesleyan University- N Augusta	Private	4-yr	Aiken	BS Computer Information Systems
2	Anderson University	Private	4-yr	Anderson	BS Computational Physics, BS Computer Science, BS Computer Science-Math, BS Information Security, BS Computer Engineering
2	Tri-County Technical College	Public	2-yr	Anderson	Associates in Computer & Information Technology
3	Webster University- Beaufort Naval Hospital	Private	4-yr	Beaufort	(online) MA in Information Technology Management, MS in Cybersecurity, certificate in website development, certificate in Cybersecurity threat detection
3	University of SC-Beaufort	Public	4-yr	Beaufort	Bachelors in Computational Science
3	Technical College of the Low country	Public	2-yr	Beaufort	Associates of Computer Technology, Certificate in programming, webmaster, network engineer, database, and computer applications
4	ECPI University	Pro-prietary	2-yr 4-yr	Charleston	Associates in Cyber/Network Security, Web Development, Database Programming, Software Development, and Cyber/Network Security. Bachelors in Web Design/Development, Cyber/Network Security, Database Programming, Software Development, Mobile Development, Cyber security. Masters in Cyber security and Information Systems
4	The Citadel	Public	4-yr	Charleston	BS in Computer Science, Minors in Computer Programming, Cyber security, MIS, MS of Computer and Information Sciences, Certificate of Cyber security
4	College of Charleston	Public	4-yr	Charleston	BS in Computer Information Systems, BS Computer Science, MS in Computer and Information Science
4	Trident Technical College	Public	2-yr	Charleston	Associates in Computer Programming, Certificate in Cybersecurity, network security, internet programming, and microcomputer programming
4	Lowcountry Graduate Center	Public	Grad	Charleston	Master of Science in Computer and Information Sciences

COUNTY MAP #	NAME	Public/ Private	TERM	COUNTY	RELEVANT TRAINING/DEGREE PROGRAMS
4	Strayer University	Pro-prietary	4-yr	Charleston	BS Information Systems, BS Information Technology, MS in Information Assurance
4	Southern Wesleyan University-Charleston	Private	4-yr	Charleston	BS in Computer Information Systems
4	Saint Leo University	Private	4-yr	Charleston	BS Computer Information Systems, BS Computer Science, MS Computer Science, BS Cyber security
4	Webster University-Charleston	Private	4-yr	Charleston	MA in Information Technology Management
4	Webster University-Joint Base Charleston	Private	4-yr	Charleston	MA in Information Technology Management
4	Virginia College-Charleston	Pro-prietary	2-yr	Charleston	Network Technician Certificate
4	Charleston Southern University	Private	4-yr	Charleston	BS Computer Science, Bachelor of Technology (BT) program in Business, CS and IS, BA in Computer and Information Sciences, Minor available in Cyber security
5	Northeastern Technical College	Public	2-yr	Chesterfield	Associate in Computer Technology
6	Clemson University	Public	4-yr	Oconee	Bachelors in Computer Engineering, Computer Information Systems, Computer Science. Masters in Computer Engineering and Computer Science. PhD in Computer Engineering and Computer Science
7	Presbyterian College	Private	4-yr	Laurens	Minor in Computer Science
8	Allen University	Private	4-yr	Richland	BS Mathematics with concentration in Computer Science
8	Benedict College	Private	4-yr	Richland	BS Computer Science, BS Computer Engineering
8	Columbia College	Private	4-yr	Richland	Associates in computer information systems, Bachelors in computer information systems, computer science, management of information systems
8	Forrest College	Pro-prietary	2-yr	Richland	Associates in Information Technology
8	Midlands Technical College	Public	2-yr	Richland	Associates in Computer Technology, Certificates in application programming, database development, web design/maintenance
8	South University	Pro-prietary	4-yr	Richland	Bachelors in Information Technology, Masters in Information Systems
8	Southern Wesleyan University-Columbia	Private	4-yr	Richland	BS in Computer Information Systems
8	Strayer University	Pro-prietary	4-yr	Richland	BS Information Systems, BS Information Technology, MS in Information Assurance

COUNTY MAP #	INSTITUTION NAME	PUBLIC/ PRIVATE	LENGTH	COUNTY	RELEVANT TRAINING/DEGREE PROGRAMS
8	University of Phoenix-Columbia	Pro-prietary	4-yr	Richland	Graduate Certificate in Cyber Security, Advanced Cyber Security Certificate, Programming Certificate, Advanced Software Developer Certificate, Masters of Information Systems, Associates in Information Technology, Bachelors in Information Technology
8	Virginia College-Columbia	Pro-prietary	2-yr	Richland	Network Technician Certificate
8	ECPI University	Pro-prietary	2 & 4-yr	Richland	Associates in Cyber/Network Security, Web Development, Database Programming, Software Development, and Cyber/Network Security. Bachelors in Web Design/Development, Cyber/Network Security, Database Programming, Software Development, Mobile Development, Cyber security. Masters in Cyber security and Information Systems
8	Webster University-Columbia	Private	4-yr	Richland	MA in Information Technology Management
8	Webster University-Fort Jackson	Private	4-yr	Richland	MA in Information Technology Management
8	Virginia College-Columbia	Pro-prietary	2-yr	Richland	Network Technician Certificate
9	Coastal Carolina University	Public	4-yr	Horry	BS Computer Science, BS Information Systems, BS Information Technology, Minor in Computer Science, Scientific Computing, Web Application Development. MS in Information Systems Technology. Graduate Certificate in Applied Computing and Information Systems
9	Horry-Georgetown Technical College	Public	2-yr	Horry	Associates in Computer Technology Networking and Computer technology Programming
10	Denmark Technical College	Public	2-yr	Bamberg	Associates in Computer Technology, General Technology. Certificate in Computer Servicing and Repair, Certificate in Cyber security
10	Voorhees College	Private	4-yr	Bamberg	BS in Computer Science
11	Trident Technical College	Public	2-yr	Dorchester	Associates in Computer Programming, Certificate in Cybersecurity, network security, internet programming, and microcomputer programming
12	Erskine College	Private	4-yr	Abbeville	Minor in Information Technology
13	Virginia College-Florence	Pro-prietary	2-yr	Florence	Network Technician Certificate
13	Florence-Darlington Technical College	Public	2-year	Florence	Certificate in Computer Technology. Associates in Computer Technology
14	Limestone College	Private	4-yr	Cherokee	BBA Computer & Information Systems Security, BBA Computer Science Programming, BS Computer Science, Associates Information Technology

COUNTY MAP #	INSTITUTION NAME	PUBLIC/ PRIVATE	TERM	COUNTY	RELEVANT TRAINING/DEGREE PROGRAMS
15	Bob Jones University	Private	4-yr	Greenville	BS Information Technology, BS Computer Science
15	Brown Mackie College	Pro-prietary	4-yr	Greenville	Associates of Applied Science in Information Technology
15	Strayer University	Pro-prietary	4-yr	Greenville	BS Information Systems, BS Information Technology, MS in Information Assurance
15	University of South Carolina-Upstate	Public	4-yr	Greenville	Pre-Baccalaureate in Computer Science
15	ECPI University	Pro-prietary	2 & 4-yr	Greenville	Associates in Cyber/Network Security, Web Development, Database Programming, Software Development, and Cyber/Network Security. Bachelors in Web Design/Development, Cyber/Network Security, Database Programming, Software Development, Mobile Development, Cyber security. Masters in Cyber security and Information Systems
15	Furman University	Private	4-yr	Greenville	BS in Computer Science, BS/BA Information Technology
15	Greenville Technical College	Private	4-yr	Greenville	Associates in Computer Technology
15	Southern Wesleyan University-Greenville	Private	4-yr	Greenville	BS in Computer Information Systems
15	University Center of Greenville	Public	4-yr	Greenville	Bachelors in Information Management & Systems, Cyber Security Certificate
15	University of Phoenix-Greenville	Pro-prietary	4-yr	Greenville	Graduate Certificate in Cyber Security, Advanced Cyber Security Certificate, Programming Certificate, Advanced Software Developer Certificate, Masters of Information Systems, Associates in Information Technology, Bachelors in Information Technology
15	Virginia College-Greenville	Pro-prietary	2-yr	Greenville	Network Technician Certificate
16	Lander University	Public	4-yr	Greenwood	BS Computer Information Systems
16	Piedmont Technical College	Public	2-yr	Greenwood	Associates in Computer Technology, Certificate in Computer Technology
17	Coker College	Private	4-yr	Darlington	BS in Computer Science
18	Williamsburg Technical College	Public	2-yr	Williamsburg	Associates in general business computer resource management
19	University of South Carolina-Lancaster	Public	4-year	Lancaster	Pre-Baccalaureate in Computer Science

COUNTY MAP #	INSTITUTION NAME	PUBLIC/ PRIVATE	TERM	COUNTY	RELEVANT TRAINING/DEGREE PROGRAMS
20	Trident Technical College	Public	2-year	Berkeley	Associates in Computer Programming, Certificate in Cybersecurity, network security, internet programming, and microcomputer programming
21	Southern Methodist College	Private	4-year	Orangeburg	BS Computer Engineering, BS Computer Science, Cyber Security Specialization, program in creative computing
21	South Carolina State University	Public	4-year	Orangeburg	Bachelors in Computer Science
22	Winthrop University	Public	4-year	York	Bachelors in Computer Science
22	York Technical College	Public	2-year	York	Associates in information technology
23	Converse College	Public	4-year	Spartanburg	Minor in Computer Science
23	Spartanburg Community College	Public	2-year	Spartanburg	Associates in Computer Technology, Software Development/Database Admin certificate
23	University of South Carolina-Upstate	Public	4-year	Spartanburg	Pre-Baccalaureate in Computer Science
23	Wofford College	Private	4-year	Spartanburg	Bachelors in Computer Science
23	Virginia College-Spartanburg	Proprietary	2-year	Spartanburg	Network Technician Certificate
24	University of South Carolina-Sumter	Public	2-year	Sumter	Pre-Baccalaureate in Computer Science and in Computer Engineering
24	Central Carolina Technical College	Public	2-year	Sumter	Associates in Computer Technology, Associates in General Technology, Computer Specialist Certificate, Cyber security Certificate
24	Saint Leo University	Private	4-year	Sumter	BS Computer Information Systems, BS Computer Science, MS Computer Science, BS Cyber security
24	Troy University	Proprietary	4-year	Sumter	BS Computer Science, Cybersecurity Certificate
24	Webster University-Shaw Air Force Base	Private	4-year	Sumter	MA in Information Technology Management, MS in Cybersecurity

Source: Metova, Inc.

Women & Information Technology by the Numbers

Future Job Openings for CS related positions
1.1 million by 2024
45% can be filled by US CS Bachelor Degree recipients
US High School students in 2016 AP courses
56% of all AP test-takers were female
46% of AP Calculus test-takers were female
23% of AP CS test-takers were female
US High School students in 2016 Intel Science/Engineering Fair finalists
61% Biology category finalists were female
32% Mathematics category finalists were female
31% Computing category finalists were female
In the 2016 Workforce…..
57% of professional occupations held by women
26% of professional computing occupations held by women
20% of Fortune 100 Chief Information Officer (CIO) position held by women

Year 2015	
57%	Of all Bachelor Degree recipients were female
18%	Of CS and IS Bachelor Degree recipients were female
16%	Of CS Bachelor Degree recipients at major research universities were female
21%	Increase in % of 1st year undergraduate females interested in majoring in CS (2000-2015)
In Year 1985	
37%	Percent of CS undergraduate Bachelor Degree recipients who were female
In Year 2016	**The computing workforce was:**
26%	Women
3%	African-American Women
5%	Asian Women
2%	Hispanic Women

Source: National Center for Women and Information Technology, "By the Numbers", www.ncwit.org, (2017).

LONG TERM OCCUPATIONAL PROJECTIONS for SC

Occupation Name	Base Year	Base	Proj. Year	Projected	Change	% Change	Avg. Annual Openings
Computer and Information Research Scientists	2014	310	2024	290	-20	-7.7	0
Computer and Information Systems Managers	2014	3440	2024	4080	640	18.3	100
Computer Hardware Engineers	2014	320	2024	350	30	6.8	10
Computer Network Architects	2014	1230	2024	1410	180	14.3	30
Computer Network Support Specialists	2014	2080	2024	2320	240	11.3	50
Computer Numerically Controlled Machine Tool Programmers	2014	380	2024	460	80	21.6	20
Computer Occupations, All Other	2014	1720	2024	1750	30	2.3	30
Computer Operators	2014	420	2024	350	-70	-15.9	0
Computer Programmers	2014	3980	2024	3820	-160	-4.1	100
Computer Science Teachers, Postsecondary	2014	820	2024	960	140	17.9	30
Computer Systems Analysts	2014	6080	2024	7510	1430	23.5	220
Computer User Support Specialists	2014	6630	2024	7730	1100	16.6	200
Database Administrators	2014	1110	2024	1260	150	13.1	40
Information Security Analysts	2014	1050	2024	1250	200	19.7	30
Network and Computer Systems Administrators	2014	4090	2024	4610	520	12.6	110
Software Developers, Applications	2014	3270	2024	3980	710	21.8	120
Software Developers, Systems Software	2014	2180	2024	2590	410	18.8	70
Web Developers	2014	1040	2024	1320	280	27.1	40

Source: www.projectionscentral.com/projections/longterm

SHORT TERM OCCUPATIONAL PROJECTIONS for SC

Occupation Name	Base Year	Base	Proj. Year	Projected	Change	% Change	Avg. Annual Openings
Computer and Information Research Scientists	2016	320	2018	320	0	0.6	10
Computer and Information Systems Managers	2016	3660	2018	3840	180	5	120
Computer Hardware Engineers	2016	340	2018	360	20	3.5	10
Computer Network Architects	2016	1300	2018	1350	50	4.1	40
Computer Network Support Specialists	2016	2190	2018	2260	70	3.1	60
Computer Numerically Controlled Machine Tool Programmers	2016	400	2018	420	20	5	20
Computer Occupations, All Other	2016	1790	2018	1830	40	2.6	40
Computer Operators	2016	450	2018	440	-10	-2	0
Computer Programmers	2016	4170	2018	4190	20	0.6	110
Computer Science Teachers, Postsecondary	2016	840	2018	860	20	2.6	30
Computer Systems Analysts	2016	6490	2018	6890	400	6.1	270
Computer User Support Specialists	2016	7000	2018	7260	260	3.8	210
Database Administrators	2016	1180	2018	1220	40	2.9	40
Information Security Analysts	2016	1110	2018	1160	50	5.2	40
Network and Computer Systems Administrators	2016	4390	2018	4560	170	3.9	130
Software Developers, Applications	2016	3490	2018	3690	200	5.6	140
Software Developers, Systems Software	2016	2320	2018	2440	120	5.3	90
Web Developers	2016	1140	2018	1220	80	6.4	50

Source: www.projectionscentral.com/projections/shortterm

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