

Program Market Demand

4 Computer and Information Sciences and Support Services

Emsi Q3 2018 Data Set

September 2018

College of San Mateo



3401 CSM Drive
San Mateo, California 94402
650.358.6880

Parameters

Programs

Code	Description
11.0701	Computer Science
11.0201	Computer Programming/Programmer, General
11.0802	Data Modeling/Warehousing and Database Administration
11.0501	Computer Systems Analysis/Analyst

Regions

Code	Description
6001	Alameda County, CA
6013	Contra Costa County, CA
6075	San Francisco County, CA
6081	San Mateo County, CA
6085	Santa Clara County, CA

Education Levels

Any

Completions Year

2015

Jobs Timeframe

2017 - 2024

Job Postings Timeframe

Sep 2016 - Aug 2018

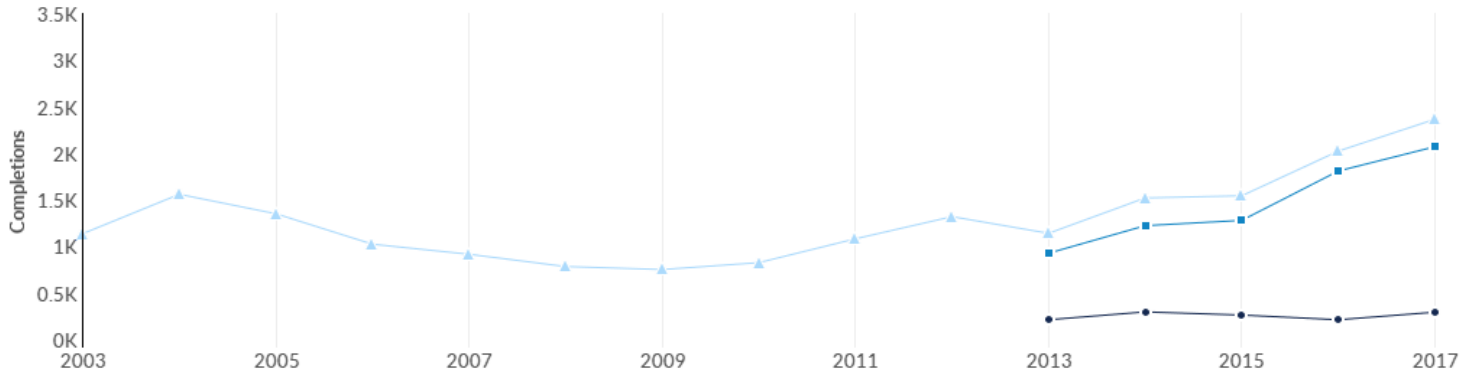
Program Overview



	Completions (2015)	% Completions	Institutions (2015)	% Institutions
● All Programs	1,545	100%	19	100%
● Distance Offered Programs	264	17%	3	16%
● Non-Distance Offered Programs	1,281	83%	19	100%

Institution	Completions (2015)	Growth % YOY (2015)	Market Share (2015)
Stanford University	435	6.6%	28.2%
University of California-Berkeley	361	23.6%	23.4%
San Jose State University	167	-1.2%	10.8%
California State University-East Bay	135	22.7%	8.7%
Diablo Valley College	90	-29.7%	5.8%
College of San Mateo	78	-3.7%	5.0%
City College of San Francisco	74	-39.8%	4.8%
San Francisco State University	72	-13.3%	4.7%
University of San Francisco	50	47.1%	3.2%
De Anza College	31	14.8%	2.0%
San Jose City College	15	7.1%	1.0%
Foothill College	12	20.0%	0.8%
Gavilan College	10	11.1%	0.6%
Ohlone College	5	-61.5%	0.3%
Contra Costa College	3	-40.0%	0.2%
Los Medanos College	2	0.0%	0.1%
Las Positas College	2	0.0%	0.1%
Berkeley City College	2	-60.0%	0.1%
Chabot College	1	-66.7%	0.1%

Regional Trends



	2013 Completions	2015 Completions	% Change
● Distance Offered Programs	214	264	+23.4%
■ Non-Distance Offered Programs	928	1,281	+38.0%
▲ All Programs	1,142	1,545	+35.3%

Job Postings vs. Hires

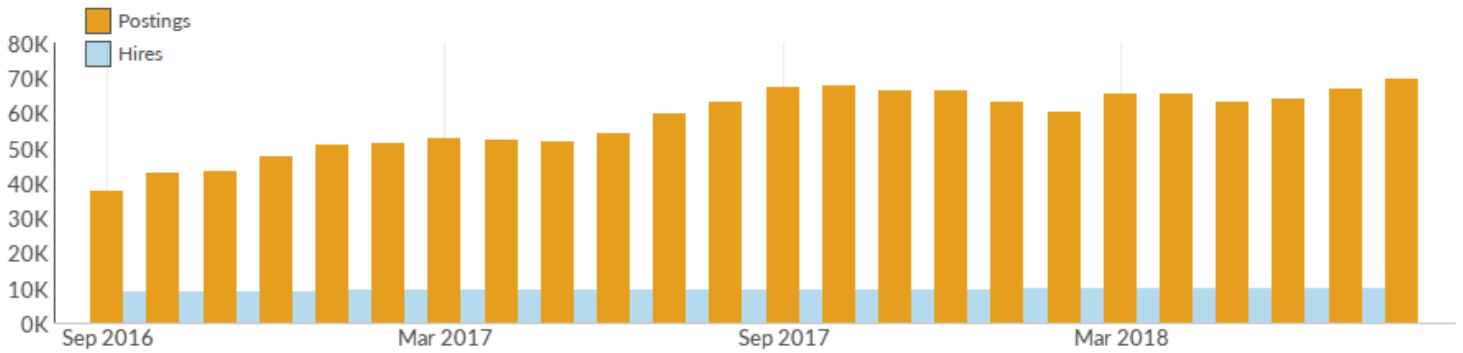
57,989

Avg. Monthly Postings (Sep 2016 - Aug 2018)

9,466


Avg. Monthly Hires (Sep 2016 - Aug 2018)

In an average month, there were 57,989 unique job postings for 14 Occupations, and 9,466 actually hired. This means there was approximately 1 hire for every 6 unique job postings for 14 Occupations.



Occupation	Avg Monthly Postings (Sep 2016 - Aug 2018)	Avg Monthly Hires (Sep 2016 - Aug 2018)
Software Developers, Applications	25,618	2,974
Computer Occupations, All Other	9,638	648
Web Developers	4,749	304
Computer Systems Analysts	3,437	1,080
Computer User Support Specialists	3,177	994
Software Developers, Systems Software	2,991	1,237
Computer and Information Systems Managers	2,537	845
Information Security Analysts	2,007	130
Computer and Information Research Scientists	1,889	85
Computer Programmers	861	470
Database Administrators	765	171
Computer Network Architects	267	291
Computer Network Support Specialists	26	217

Job Postings Summary

<p>453,027 Unique Postings 1.92M Total Postings</p>	<p>4 : 1 Posting Intensity  Regional Average: 4 : 1</p>	<p>35 days Median Posting Duration Regional Average: 33 days</p>
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There were 1.92M total job postings for your selection from September 2016 to August 2018, of which 453,027 were unique. These numbers give us a Posting Intensity of 4-to-1, meaning that for every 4 postings there is 1 unique job posting.

This is close to the Posting Intensity for all other occupations and companies in the region (4-to-1), indicating that they are putting average effort toward hiring for this position.

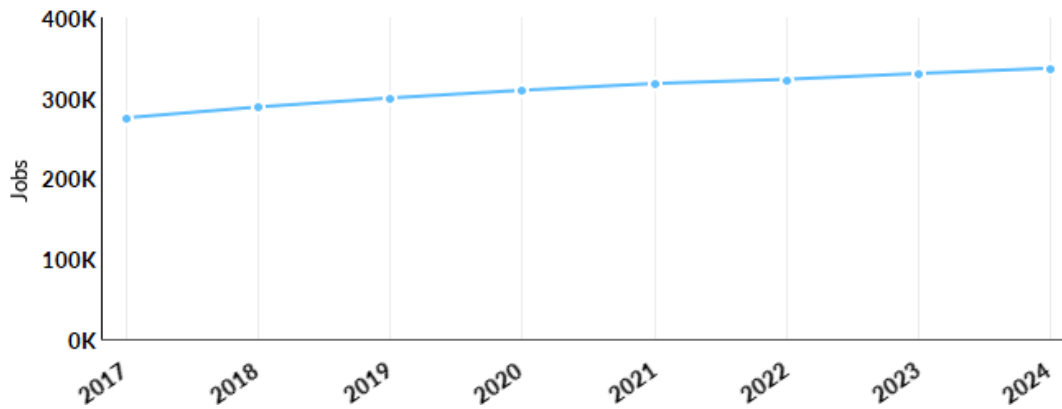
Target Occupations

<p>275,091</p> <p>Jobs (2017)</p> <p>169% above National average</p>	<p>+22.4%</p> <p>% Change (2017-2024)</p> <p>Nation: +12.7%</p>	<p>\$58.26/hr</p> <p>Median Hourly Earnings</p> <p>Nation: \$41.36/hr</p>	<p>28,854</p> <p>Annual Openings</p>
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Occupation	2017 Jobs	Annual Openings	Median Hourly Earnings	Growth (2017 - 2024)	Location Quotient (2017)
Software Developers, Applications	87,769	10,202	\$62.38/hr	+30.62%	4.33
Software Developers, Systems Software	39,450	3,443	\$65.86/hr	+13.79%	4.17
Computer Systems Analysts	30,538	2,966	\$53.85/hr	+19.34%	2.16
Computer User Support Specialists	27,091	3,054	\$33.24/hr	+22.65%	1.67
Computer and Information Systems Managers	24,728	2,605	\$87.36/hr	+18.55%	2.79
Computer Occupations, All Other	18,075	1,746	\$54.49/hr	+17.27%	2.24
Computer Programmers	13,181	1,052	\$49.36/hr	+9.10%	2.11
Web Developers	9,352	1,090	\$40.91/hr	+26.82%	2.46
Computer Network Architects	7,980	747	\$66.33/hr	+17.24%	2.12
Computer Network Support Specialists	5,909	669	\$37.88/hr	+22.98%	1.22
Database Administrators	4,526	463	\$50.42/hr	+22.40%	1.65
Information Security Analysts	3,314	468	\$56.41/hr	+43.00%	1.30
Computer and Information Research Scientists	2,549	275	\$67.35/hr	+23.81%	3.64
Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic	629	74	\$34.78/hr	+10.02%	1.10

Growth

275,091 2017 Jobs	336,704 2024 Jobs	61,613 Change (2017-2024)	22.4% % Change (2017-2024)
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Occupation	2017 Jobs	2024 Jobs	Change	% Change
Computer and Information Systems Managers (11-3021)	24,728	29,316	4,588	19%
Computer and Information Research Scientists (15-1111)	2,549	3,156	607	24%
Computer Systems Analysts (15-1121)	30,538	36,444	5,906	19%
Information Security Analysts (15-1122)	3,314	4,739	1,425	43%
Computer Programmers (15-1131)	13,181	14,380	1,199	9%
Software Developers, Applications (15-1132)	87,769	114,641	26,872	31%
Software Developers, Systems Software (15-1133)	39,450	44,890	5,440	14%
Web Developers (15-1134)	9,352	11,860	2,508	27%
Database Administrators (15-1141)	4,526	5,540	1,014	22%
Computer Network Architects (15-1143)	7,980	9,356	1,376	17%
Computer User Support Specialists (15-1151)	27,091	33,227	6,136	23%
Computer Network Support Specialists (15-1152)	5,909	7,267	1,358	23%
Computer Occupations, All Other (15-1199)	18,075	21,196	3,121	17%

Occupation	2017 Jobs	2024 Jobs	Change	% Change
Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic (51-4012)	629	692	63	10%

Percentile Earnings

\$42.17/hr

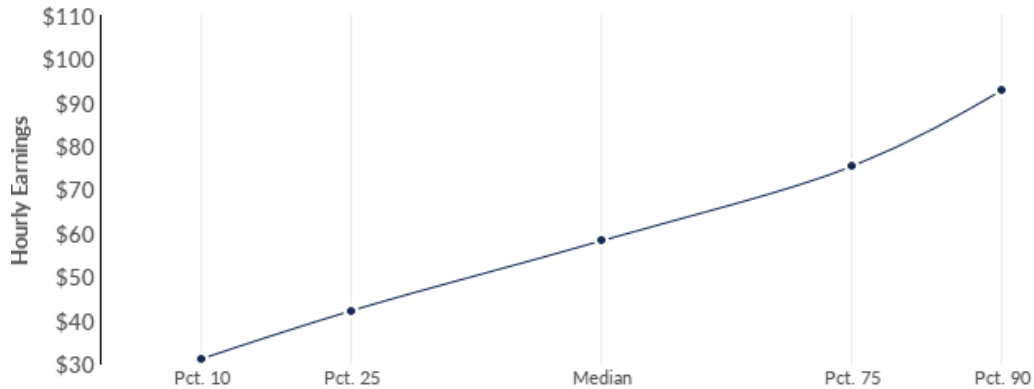
25th Percentile Earnings

\$58.26/hr

Median Earnings

\$75.35/hr

75th Percentile Earnings


















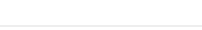








Occupation	25th Percentile Earnings	Median Earnings	75th Percentile Earnings
Computer and Information Systems Managers (11-3021)	\$70.26	\$87.36	\$110.69
Computer and Information Research Scientists (15-1111)	\$51.40	\$67.35	\$83.66
Computer Systems Analysts (15-1121)	\$41.94	\$53.85	\$67.61
Information Security Analysts (15-1122)	\$43.12	\$56.41	\$69.23
Computer Programmers (15-1131)	\$35.97	\$49.36	\$60.98
Software Developers, Applications (15-1132)	\$48.84	\$62.38	\$77.26
Software Developers, Systems Software (15-1133)	\$51.99	\$65.86	\$79.04
Web Developers (15-1134)	\$25.43	\$40.91	\$58.55
Database Administrators (15-1141)	\$34.81	\$50.42	\$63.77
Computer Network Architects (15-1143)	\$50.93	\$66.33	\$82.05
Computer User Support Specialists (15-1151)	\$26.04	\$33.24	\$43.54
Computer Network Support Specialists (15-1152)	\$29.43	\$37.88	\$49.70



Occupation	25th Percentile Earnings	Median Earnings	75th Percentile Earnings
Computer Occupations, All Other (15-1199)	\$37.78	\$54.49	\$70.65
Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic (51-4012)	\$27.56	\$34.78	\$43.34


Top Companies Posting

Company	Total/Unique (Sep 2016 - Aug 2018)	Posting Intensity	Median Posting Duration
Oracle Corporation	48,305 / 15,669	3 : 1	56 days
Cybercoders, Inc.	134,145 / 13,412	10 : 1	43 days
Apple Inc.	50,929 / 12,972	4 : 1	66 days
Amazon.com, Inc.	33,677 / 5,749	6 : 1	52 days
Robert Half International Inc.	28,625 / 4,419	6 : 1	23 days
Google Inc.	12,384 / 4,160	3 : 1	54 days
ACCENTURE, INC.	13,078 / 4,154	3 : 1	45 days
Cisco Systems, Inc.	31,046 / 3,884	8 : 1	42 days
Deloitte LLP	14,499 / 3,230	4 : 1	59 days
Workbridge Associates	4,143 / 2,921	1 : 1	335 days
Uber Technologies, Inc.	9,019 / 2,792	3 : 1	48 days
Salesforce.com, Inc.	23,159 / 2,733	8 : 1	54 days
Facebook, Inc.	8,337 / 2,616	3 : 1	38 days
Nvidia Corporation	15,692 / 2,372	7 : 1	51 days
International Business Machines Corporation	11,263 / 2,354	5 : 1	42 days
Anthem, Inc.	6,410 / 2,307	3 : 1	21 days
Freelancers	4,132 / 2,272	2 : 1	17 days
Jobspring Partners	3,526 / 2,232	2 : 1	179 days
Vmware, Inc.	10,078 / 2,117	5 : 1	48 days
Central Business Solutions LLC	2,398 / 1,821	1 : 1	53 days
Intel Corporation	12,206 / 1,795	7 : 1	58 days
Workday, Inc.	7,640 / 1,779	4 : 1	34 days
Kforce Inc.	10,105 / 1,618	6 : 1	53 days
SAP SE	17,135 / 1,542	11 : 1	49 days

Wells Fargo & Company	9,921 / 1,520	7 : 1		16 days
Wal-Mart Stores, Inc.	12,096 / 1,486	8 : 1		48 days
Teksystems, Inc.	14,231 / 1,477	10 : 1		20 days
Adobe Systems Incorporated	4,060 / 1,381	3 : 1		45 days
General Electric Company	13,579 / 1,377	10 : 1		49 days
Visa Inc.	5,991 / 1,360	4 : 1		35 days
Virtual Vacations	1,407 / 1,318	1 : 1		12 days
Angellist, LLC	1,703 / 1,310	1 : 1		32 days
Ebay Inc.	6,335 / 1,285	5 : 1		62 days
Kaiser Permanente	8,855 / 1,251	7 : 1		64 days
RANDSTAD HOLDING nv	13,136 / 1,239	11 : 1		32 days
Tesla Motors, Inc.	4,989 / 1,237	4 : 1		85 days
Pharmalynx LLC	29,977 / 1,231	24 : 1		14 days
Lafayette Media Group, LLC	2,102 / 1,185	2 : 1		11 days
Hired	4,058 / 1,179	3 : 1		27 days
Infoobjects Inc.	3,055 / 1,161	3 : 1		8 days
Microsoft Corporation	3,952 / 1,159	3 : 1		51 days
Reqroute Inc	3,885 / 1,154	3 : 1		43 days
Paypal Holdings, Inc.	10,947 / 1,149	10 : 1		39 days
Xoriant Corporation	3,396 / 1,083	3 : 1		28 days
Collabera Inc.	4,669 / 1,060	4 : 1		29 days
Cognizant Technology Solutions Corporation	4,779 / 1,032	5 : 1		31 days
Palo Alto Networks Inc.	4,422 / 1,023	4 : 1		56 days
University of California	4,518 / 995	5 : 1		43 days
Yahoo Inc.	4,518 / 969	5 : 1		98 days
WIPRO LIMITED	6,104 / 894	7 : 1		41 days

Top Posted Job Titles

Job Title	Total/Unique (Sep 2016 - Aug 2018)	Posting Intensity	Median Posting Duration
Software Engineer	368,620 / 80,495	5 : 1 	44 days
Java Developer	71,065 / 17,099	4 : 1 	23 days
Project Manager (Computer and Mathematical)	43,477 / 10,009	4 : 1 	32 days
Front-End Developer	36,979 / 8,883	4 : 1 	34 days
Cloud Engineer Architect	32,488 / 7,666	4 : 1 	40 days
Systems Engineer (Computer and Mathematical)	30,823 / 6,986	4 : 1 	43 days
Data Scientist	31,055 / 6,826	5 : 1 	42 days
Data Engineer	28,837 / 6,700	4 : 1 	43 days
Program Manager	28,198 / 6,484	4 : 1 	41 days
Solutions Architect	24,068 / 5,941	4 : 1 	40 days
Test Automation Engineer	22,450 / 5,560	4 : 1 	34 days
User Interface Developer	21,473 / 5,493	4 : 1 	34 days
Web Developer	22,013 / 5,457	4 : 1 	33 days
Mobile Software Engineer	21,320 / 5,355	4 : 1 	39 days
Security Engineer	25,707 / 5,190	5 : 1 	40 days
Systems Analyst	22,393 / 4,791	5 : 1 	34 days
IT Quality Assurance Analyst	20,257 / 4,478	5 : 1 	37 days
Technical Lead	20,953 / 4,160	5 : 1 	35 days
Project Manager (Management)	15,296 / 3,912	4 : 1 	32 days
Software Development Leader	21,183 / 3,691	6 : 1 	45 days
Android Developer	14,731 / 3,551	4 : 1 	33 days
IT Help Desk Specialist	17,817 / 3,325	5 : 1 	31 days
Staff Software Engineer	18,059 / 3,208	6 : 1 	45 days
Database Administrator	12,037 / 3,162	4 : 1 	25 days

Business Analyst (Computer and Mathematical)	12,063 / 2,904	4 : 1		31 days
Linux Engineer	13,345 / 2,888	5 : 1		35 days
Information Security Analyst	12,386 / 2,834	4 : 1		36 days
Salesforce Developer	11,310 / 2,737	4 : 1		30 days
.Net Developer	10,222 / 2,717	4 : 1		23 days
IOS Developer	13,910 / 2,689	5 : 1		34 days
Python Developer	10,205 / 2,666	4 : 1		27 days
Sales Representative	4,322 / 2,629	2 : 1		15 days
Software Developer	8,997 / 2,392	4 : 1		34 days
Oracle Developer	7,841 / 2,350	3 : 1		17 days
Data Architect	9,193 / 2,303	4 : 1		35 days
User Experience Designer	8,966 / 2,287	4 : 1		43 days
IT Support Analyst	10,361 / 2,220	5 : 1		33 days
Programmer	8,323 / 2,080	4 : 1		33 days
Hadoop DevOps Engineer	8,262 / 2,072	4 : 1		24 days
Design Engineer (Architecture and Engineering)	7,861 / 2,036	4 : 1		43 days
Business Analyst (Business and Financial Operations)	9,084 / 1,985	5 : 1		28 days
SAN Engineer	6,849 / 1,946	4 : 1		30 days
Product Manager (Management)	7,527 / 1,945	4 : 1		45 days
Firmware Engineer	8,522 / 1,850	5 : 1		41 days
Ruby on Rails Developer	8,206 / 1,813	5 : 1		36 days
SQL Developer	5,792 / 1,772	3 : 1		18 days
Application Developer	7,763 / 1,763	4 : 1		43 days
Senior Java Software Engineer	6,987 / 1,757	4 : 1		48 days
Quality Assurance Engineer (Computer and Mathematical)	6,741 / 1,736	4 : 1		40 days

Data Analyst (Computer and Mathematical)

7,989 / 1,729

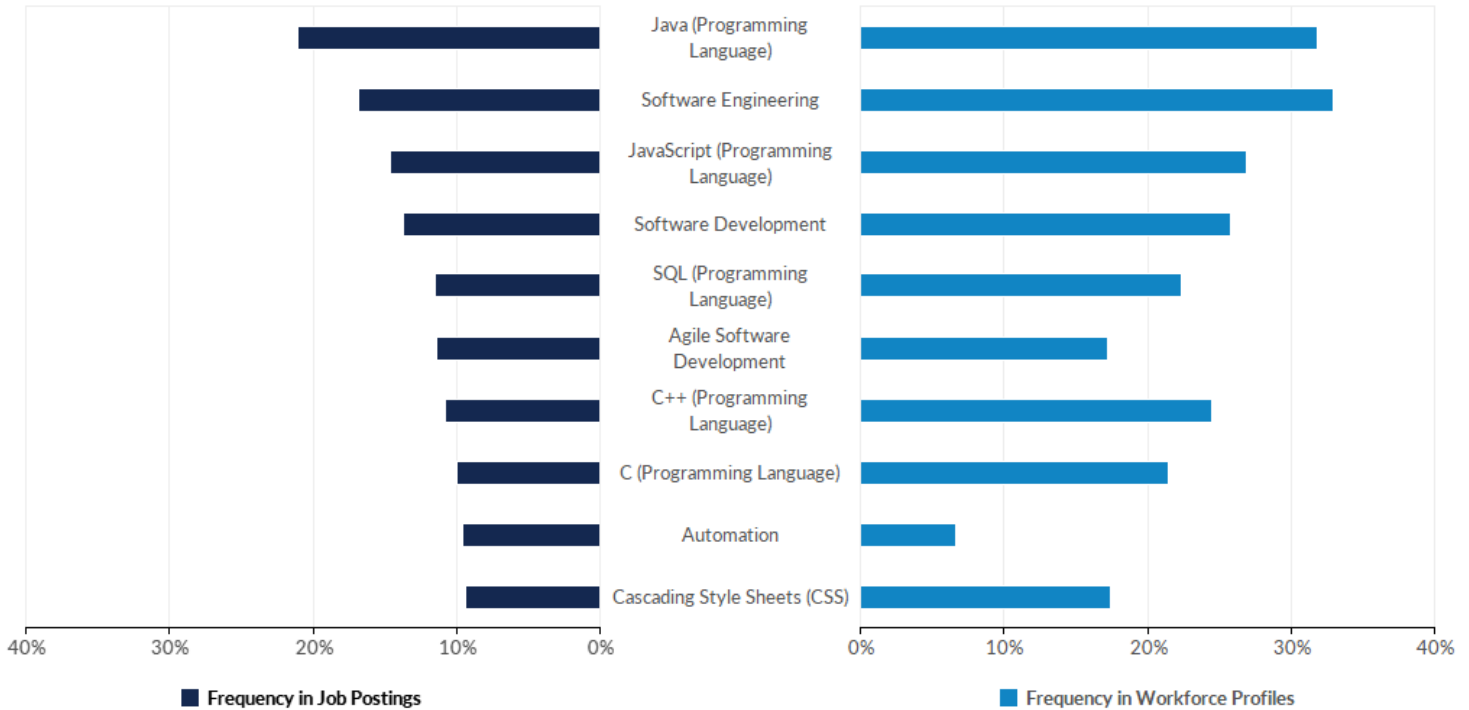
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28 days

The following provides insight into the supply and demand of relevant skills by comparing the frequency of skills present in job postings against skills present in today's workforce. Along with Emsi's job posting analytics, this comparison leverages Emsi's dataset of more than 100M online resumés and profiles. All resumés and profiles used in these comparisons have been updated within the last three years.

**The skills associated with workforce profiles represent workers of all education and experience levels.*

Top Hard Skills



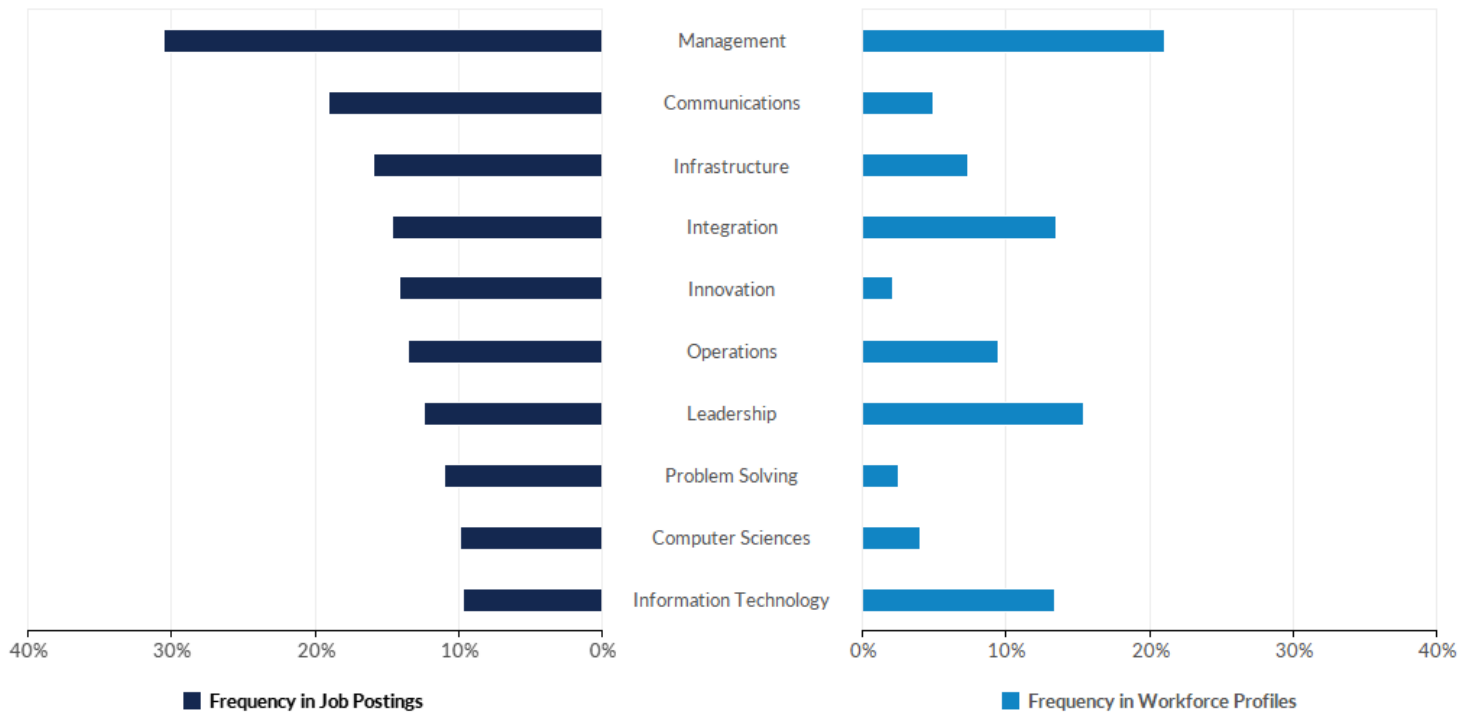
Top Hard Skills

Skill	Frequency in Postings	Postings with Skill / Total Postings (Sep 2016 - Aug 2018)	Frequency in Profiles	Profiles with Skill / Total Profiles (2016 - 2018)
Java (Programming Language)	21%	95,216 / 453,027	32%	77,341 / 243,056
Software Engineering	17%	76,325 / 453,027	33%	79,959 / 243,056
JavaScript (Programming Language)	15%	66,226 / 453,027	27%	65,339 / 243,056
Software Development	14%	61,905 / 453,027	26%	62,810 / 243,056
SQL (Programming Language)	11%	51,933 / 453,027	22%	54,363 / 243,056
Agile Software Development	11%	51,720 / 453,027	17%	41,946 / 243,056
C++ (Programming Language)	11%	49,023 / 453,027	24%	59,513 / 243,056

C (Programming Language)	10%	45,246 / 453,027	22%	52,276 / 243,056
Automation	10%	43,218 / 453,027	7%	16,109 / 243,056
Cascading Style Sheets (CSS)	9%	42,399 / 453,027	17%	42,326 / 243,056
Amazon Web Services	9%	41,080 / 453,027	4%	10,862 / 243,056
Python (Programming Language)	9%	39,142 / 453,027	21%	50,557 / 243,056
Software Quality Assurance (SQA)	8%	36,397 / 453,027	9%	22,533 / 243,056
Debugging	8%	35,014 / 453,027	7%	16,310 / 243,056
HyperText Markup Language (HTML)	7%	33,314 / 453,027	21%	50,345 / 243,056
Big Data	7%	31,089 / 453,027	4%	9,972 / 243,056
Operating Systems	6%	29,432 / 453,027	8%	20,548 / 243,056
Scripting	6%	29,029 / 453,027	1%	3,444 / 243,056
Algorithms	6%	28,550 / 453,027	10%	24,299 / 243,056
Product Quality Assurance	6%	27,781 / 453,027	6%	14,280 / 243,056
Ruby On Rails	6%	27,430 / 453,027	10%	23,644 / 243,056
Linux	6%	26,595 / 453,027	19%	45,403 / 243,056
User Interface	6%	26,222 / 453,027	7%	16,038 / 243,056
Scalability	6%	25,169 / 453,027	4%	10,332 / 243,056
Scrum (Software Development)	5%	23,833 / 453,027	8%	18,919 / 243,056
Apache Hadoop	5%	23,758 / 453,027	5%	11,960 / 243,056
Front End (Software Engineering)	5%	22,473 / 453,027	6%	14,534 / 243,056
Perl (Programming Language)	5%	21,419 / 453,027	11%	26,115 / 243,056
Jenkins	4%	19,381 / 453,027	2%	5,543 / 243,056
Enhanced Data Rates For GSM Evolution	4%	19,216 / 453,027	1%	3,315 / 243,056
HTML5	4%	19,209 / 453,027	7%	16,681 / 243,056
Cloud Computing	4%	19,186 / 453,027	10%	24,658 / 243,056
Unix	4%	19,176 / 453,027	13%	32,527 / 243,056

Business Process	4%	18,937 / 453,027	4%	10,690 / 243,056
C Sharp (Programming Language)	4%	18,924 / 453,027	10%	23,467 / 243,056
Web Services	4%	18,336 / 453,027	9%	20,724 / 243,056
Software As A Services	4%	17,761 / 453,027	6%	14,593 / 243,056
Data Structures	4%	17,669 / 453,027	3%	8,201 / 243,056
Information Systems	4%	17,611 / 453,027	2%	4,011 / 243,056
Extensible Markup Language (XML)	4%	17,597 / 453,027	13%	32,492 / 243,056
JQuery	4%	17,313 / 453,027	9%	22,840 / 243,056
Test Planning	4%	16,729 / 453,027	4%	10,372 / 243,056
NoSQL	4%	16,433 / 453,027	1%	3,618 / 243,056
Accounting	4%	16,044 / 453,027	2%	4,144 / 243,056
Analytics	4%	15,923 / 453,027	4%	9,131 / 243,056
Test Automation	4%	15,859 / 453,027	4%	10,600 / 243,056
Business Requirements	4%	15,858 / 453,027	3%	6,281 / 243,056
Docker	3%	15,693 / 453,027	1%	2,759 / 243,056
Java Platform Enterprise Edition (J2EE)	3%	15,649 / 453,027	3%	8,057 / 243,056
Customer Relationship Management	3%	15,490 / 453,027	5%	12,800 / 243,056

Top Common Skills



Top Common Skills

Skill	Frequency in Postings	Postings with Skill / Total Postings (Sep 2016 - Aug 2018)	Frequency in Profiles	Profiles with Skill / Total Profiles (2016 - 2018)
Management	31%	138,306 / 453,027	21%	51,135 / 243,056
Communications	19%	86,404 / 453,027	5%	11,926 / 243,056
Infrastructure	16%	71,962 / 453,027	7%	17,974 / 243,056
Integration	15%	66,070 / 453,027	13%	32,724 / 243,056
Innovation	14%	63,870 / 453,027	2%	5,064 / 243,056
Operations	13%	60,964 / 453,027	9%	23,061 / 243,056
Leadership	12%	56,019 / 453,027	15%	37,405 / 243,056
Problem Solving	11%	49,881 / 453,027	3%	6,167 / 243,056
Computer Sciences	10%	44,563 / 453,027	4%	9,783 / 243,056
Information Technology	10%	43,666 / 453,027	13%	32,664 / 243,056
Sales	8%	34,963 / 453,027	10%	23,975 / 243,056
Research	7%	32,814 / 453,027	16%	38,210 / 243,056

Apple IOS	6%	29,156 / 453,027	6%	15,344 / 243,056
Project Management	6%	26,903 / 453,027	14%	33,520 / 243,056
Troubleshooting (Problem Solving)	6%	26,163 / 453,027	7%	17,304 / 243,056
Presentations	6%	25,881 / 453,027	3%	8,462 / 243,056
Data Analysis	6%	25,090 / 453,027	8%	19,578 / 243,056
Android (Operating System)	6%	25,066 / 453,027	8%	18,794 / 243,056
Application Development	5%	22,945 / 453,027	3%	8,117 / 243,056
Mentorship	4%	20,197 / 453,027	2%	4,874 / 243,056
Written Communication	4%	20,172 / 453,027	0%	428 / 243,056
Interpersonal Skills	4%	19,273 / 453,027	0%	968 / 243,056
Microsoft Windows	4%	18,190 / 453,027	12%	28,313 / 243,056
Verbal Communication Skills	4%	17,377 / 453,027	0%	146 / 243,056
Writing	3%	15,850 / 453,027	3%	7,148 / 243,056
Customer Service	3%	15,762 / 453,027	8%	20,029 / 243,056
Driving	3%	13,704 / 453,027	1%	1,466 / 243,056
Creativity	3%	13,424 / 453,027	0%	0 / 243,056
Coordinating	3%	12,626 / 453,027	2%	5,141 / 243,056
Financial Services	3%	11,691 / 453,027	1%	2,567 / 243,056
Program Management	3%	11,642 / 453,027	9%	20,818 / 243,056
Decision Making	2%	11,172 / 453,027	1%	1,389 / 243,056
Governance	2%	10,787 / 453,027	1%	2,505 / 243,056
Mathematics	2%	10,607 / 453,027	2%	3,863 / 243,056
Microsoft Excel	2%	9,277 / 453,027	8%	20,481 / 243,056
Prioritization	2%	8,313 / 453,027	1%	1,404 / 243,056
Time Management	2%	8,252 / 453,027	1%	3,428 / 243,056
Quality Assurance	2%	7,585 / 453,027	5%	12,958 / 243,056

Critical Thinking	2%	7,345 / 453,027	0%	1,097 / 243,056
Apple iPhone	2%	7,141 / 453,027	3%	6,527 / 243,056
Microsoft Office	2%	6,836 / 453,027	10%	24,932 / 243,056
Business Acumen	1%	6,737 / 453,027	0%	240 / 243,056
Microsoft PowerPoint	1%	6,488 / 453,027	6%	13,446 / 243,056
Negotiation	1%	6,450 / 453,027	1%	2,775 / 243,056
Apple OS X	1%	5,777 / 453,027	3%	8,233 / 243,056
Data/Record Logging	1%	5,300 / 453,027	2%	3,856 / 243,056
Office Suite	1%	4,210 / 453,027	0%	444 / 243,056
Microsoft Outlook	1%	4,162 / 453,027	2%	5,459 / 243,056
Physics	1%	3,584 / 453,027	1%	2,920 / 243,056
Telecommuting	1%	3,546 / 453,027	0%	44 / 243,056

Top Qualifications

Qualification	Postings with Qualification
Certified Information Systems Security Professional	5,175
Certified Information Security Manager	3,664
Master Of Business Administration (MBA)	2,826
Certified Ethical Hacker	1,155
Global Information Assurance Certification	1,119
PMI Certified	1,075
Cisco Certified Network Associate	1,017
Cisco Certified Network Professional	932
Cisco Certified Internetwork Expert	787
Certified In Risk And Information Systems Control	734
Microsoft Certified Systems Engineer	723
CompTIA Security+	686
Project Management Professional Certification	600
Microsoft Certified Professional	592
GIAC Certified Incident Handler	548
CompTIA Network+	491
GIAC Security Essentials Certification	449
Microsoft Certified Systems Administrator (MCSA)	417
Offensive Security Certified Professional	373
GIAC Certified Intrusion Analyst	360
Cisco Certified Security Professional	322
Certificate Of Cloud Security Knowledge	254
Certified Internal Auditor	254
GIAC Certified Forensics Analyst	209
Certified Public Accountant	192
Juniper Networks Certified Internet Expert	187

Microsoft Certified IT Professional	177
VMware Certified Professional (VCP)	171
Certified Secure Software Lifecycle Professional	164
Certified In The Governance Of Enterprise IT	158
Systems Security Certified Practitioner	154
Qualified Security Assessor	146
Certified Associate Project Manager	140
Cisco Certified Design Professional	117
Certified Software Quality Engineer	105
Program Management Professional	105
Information Systems Security Architecture Professional	100
Microsoft Certified Technology Specialist	100
Red Hat Certification Programs	99
Juniper Network Certified Internet Professional (JNCIP)	94
Forensic Examiner Certification	93
Certified Scrum Product Owner	92
Oracle Master Certification	88
Reverse Engineering Malware Certification	88
Apple Certified Macintosh Technician	74
(American Society For Quality) ASQ Certified	70
Certified Software Tester (CSTE)	69
Certified Business Continuity Professional	68
Cisco Certified Voice Professional	68
Apple Certified Support Professional	67

Appendix A - Data Sources and Calculations

Institution Data

The institution data in this report is taken directly from the national IPEDS database published by the U.S. Department of Education's National Center for Education Statistics.

Emsi Job Postings

Job postings are collected from various sources and processed/enriched to provide information such as standardized company name, occupation, skills, and geography.

Occupation Data

Emsi occupation employment data are based on final Emsi industry data and final Emsi staffing patterns. Wage estimates are based on Occupational Employment Statistics (QCEW and Non-QCEW Employees classes of worker) and the American Community Survey (Self-Employed and Extended Proprietors). Occupational wage estimates also affected by county-level Emsi earnings by industry.

Location Quotient

Location quotient (LQ) is a way of quantifying how concentrated a particular industry, cluster, occupation, or demographic group is in a region as compared to the nation. It can reveal what makes a particular region unique in comparison to the national average.

State Data Sources

This report uses state data from the following agencies: California Labor Market Information Department