

⚠ Endorsed: Caution Advised			
Program LMI Endorsement Criteria			
	Met <input checked="" type="checkbox"/>	Partially Met <input type="checkbox"/>	Not Met <input type="checkbox"/>
Supply Gap:	There are projected to be 829 annual job openings throughout Los Angeles and Orange counties for these applied AI occupations, which is more than the 746 awards conferred by educational institutions.		
Self-Sufficiency Standard Living Wage ¹ :	Met <input checked="" type="checkbox"/>	Partially Met <input type="checkbox"/>	Not Met <input type="checkbox"/>
	The majority (72%) of annual job openings for these applied AI occupations have entry-level hourly wages above the OC living wage of \$27.13.		
Education:	Met <input type="checkbox"/>	Partially Met <input checked="" type="checkbox"/>	Not Met <input type="checkbox"/>
	Although these middle-skill applied AI occupations typically require a bachelor's degree, between 21% and 25% of workers in the field have completed some college or an associate degree as their highest level of education.		

Summary

The Orange County Center of Excellence for Labor Market Research (OC COE) prepared this report to determine whether there is a supply gap in the Los Angeles and Orange counties regional labor market related to three occupations:

- Middle-Skill
 - *Web Developers (15-1254)*
 - *Web and Digital Interface Designers (15-1255)*

Based on the available data, there appears to be a supply gap for these applied AI middle-skill occupations, and the majority of annual job openings have entry-level wages above the Self-Sufficiency Standard living wage. However, typical education requirements for these occupations only partially align with a community college education **Therefore, due to some of the regional labor market criteria being met, the COE endorses this proposed program.**

¹ The living wage endorsement criteria in this report uses the University of Washington's Center for Women's Welfare Self-Sufficiency Standard, which the COE refers to as a living wage; Orange County's living wage of \$27.13, was last updated in March 2024.

Exhibit 1 lists the occupational demand, supply, typical entry-level education, and educational attainment for the middle-skill occupations included in this report.

Exhibit 1: Labor Market Endorsement Summary

Occupation (SOC)	Demand (Annual Openings)	Supply (CC and Non-CC)	Entry-Level Hourly Earnings (25th Percentile)	Typical Entry-Level Education	Community College Educational Attainment
Web Developers (15-1254)	LA: 159 OC: 57 TTL: 216	<i>Accounted for Below</i>	OC: \$26.06	Bachelor's degree	25%
Web and Digital Interface Designers (15-1255)	LA: 465 OC: 148 TTL: 613	LA: 362 OC: 384 TTL: 746	OC: \$31.65	Bachelor's degree	21%
Total	829	746	N/A	N/A	N/A

Demand

- In Los Angeles and Orange counties, the number of jobs related to these applied AI occupations is projected to remain flat through 2029, equating to 829 annual job openings.
- Hourly entry-level wages for these applied AI occupations range from \$26.06 to \$31.65 in Orange County; 72% of annual openings have entry-level wages above the Self-Sufficiency Standard living wage.
- There were 3,888 online job postings for these applied AI occupations over the past 12 months. The highest number of postings were for UI/UX designers, UX designers, and back-end engineers.
- The typical entry-level education for these applied AI occupations is a bachelor's degree.
- Between 21% and 25% of workers in the field have completed some college or an associate degree as their highest level of educational attainment.

Supply

- Between 2021 to 2024, an average of 718 awards conferred by 24 community colleges for the middle-skill occupations in Los Angeles and Orange counties.
- From 2020 to 2023, non-community college institutions conferred an average of 28 awards for the middle-skill occupations.
- In the 2022-23 academic year, Orange County community college students that exited computer software development programs had a median annual wage of \$50,096 (\$24.08 per hour) post-exit, and 43% attained the regional living wage.
- In 2021-22, 67% of Orange County computer software development students that exited their programs reported working a job closely related to their field of study.

Demand

Occupational Projections

Exhibit 2 shows the annual percentage change in jobs for these applied AI occupations from 2019 through 2029. Between 2019 and 2020, employment levels across Los Angeles and Orange counties declined sharply due to the broader economic impacts of the COVID-19 pandemic. From 2021 to 2023, the region saw strong growth in employment, followed by a moderate decline in 2024. Beginning in 2025, job levels are projected to grow at a slower rate than all occupations through 2029.

Exhibit 2: Annual Percentage Change in Jobs for Applied AI Occupations, 2019-2029

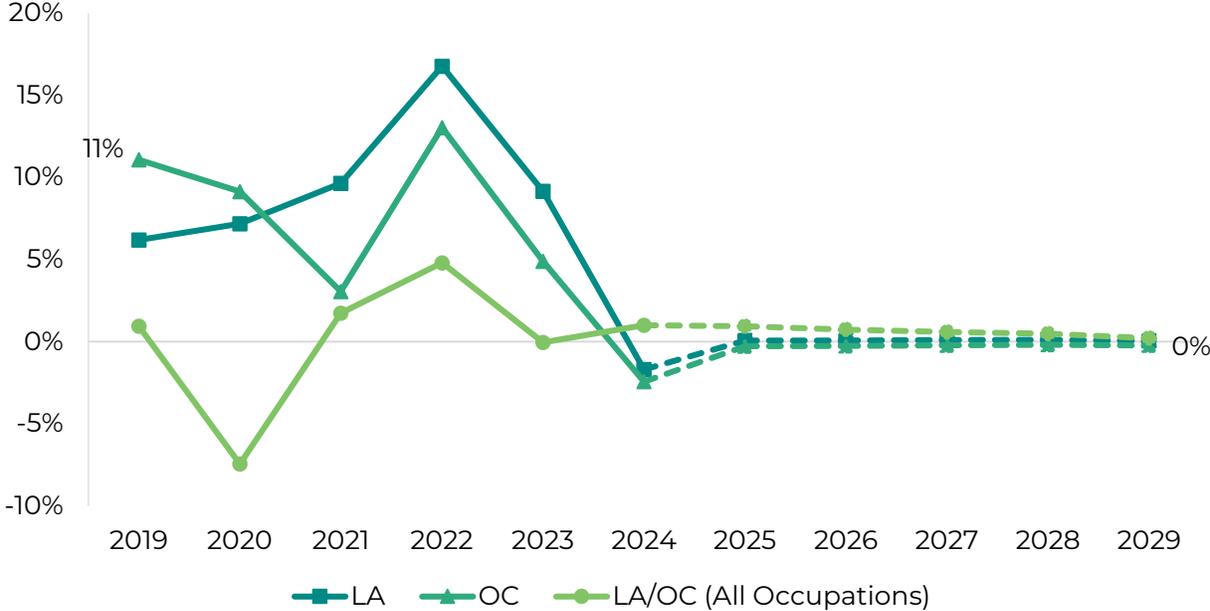


Exhibit 3 shows the five-year occupational demand projections for these middle-skill applied AI occupations. In Los Angeles and Orange counties, the number of jobs related to these occupations is projected to remain flat through 2029. There is projected to be 829 available annually.

Exhibit 3: Middle-Skill Occupational Demand in Los Angeles and Orange Counties²

Geography	2024 Jobs	2029 Jobs	2024-2029 Change	2024-2029 % Change	Annual Openings
Los Angeles	9,475	9,511	36	0%	624
Orange	3,221	3,182	(38)	(1%)	205
Total	12,696	12,693	(3)	0%	829

Wages

The labor market endorsement in this report considers the entry-level hourly wages for these applied AI occupations in Orange County as they relate to the county’s living wage. Los Angeles County wages are included below to provide a complete analysis of the LA/OC region.

² Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

In addition to the Self Sufficiency Standard living wage, data for the MIT Living Wage (updated on February 10, 2025) is provided as a reference. Currently, the MIT Living Wage in Orange County is \$32.20. Both figures account for geographic-specific costs of necessities such as housing, food, health care, and transportation to assess the cost of living, and are notated in the exhibits below.

In Orange County, 72% of annual openings for these applied AI occupations have entry-level wages above the Self-Sufficiency living wage of \$27.13 for a single adult, ranging from \$26.06 and \$31.65. Exhibit 4 shows the wage range for each of these applied AI occupations in Orange County and how they compare to the regional living wage, sorted from lowest to highest entry-level wage.

Exhibit 4: Wages by Occupation in Orange County



In Los Angeles County, all annual openings for these applied AI occupations have entry-level wages above the Self-Sufficiency living wage of \$24.03 for a single adult, ranging from \$27.78 and \$33.57. Exhibit 5 shows the wage range for each of these applied AI occupations in Los Angeles County and how they compare to the regional living wage, sorted from lowest to highest entry-level wage.

Exhibit 5: Wages by Occupation in Los Angeles County



Resilient Jobs and U.S. News & World Report Best Jobs

Exhibit 6 shows if each occupation is considered an Orange County Great Recession-Resilient, COVID-19 Pandemic Recession-Resilient Job, or a 2025 U.S. News & World Report (USN&WR) Best Job³. Only one occupation, *web developers*, was considered a USN&WR Best Job, while *web and digital interface designers* did not meet the criteria for any of these designations.

³ "100 Best Jobs," U.S. News & World Report, accessed January 28, 2025, <https://money.usnews.com/careers/best-jobs/rankings/the-100-best-jobs>.

Exhibit 6: Resilient Jobs and USN&WR Best Jobs Designations

Occupation	Great Recession-Resilient Job	COVID-19 Pandemic Recession-Resilient Job	2025 USN&WR Best Job
Web and Digital Interface Designers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Web Developers	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Job Postings

Important Job Postings Data Note: *There are limitations when analyzing job postings. A single job posting may not represent a single job opening for a variety of reasons.*

This section provides two job posting analyses to provide a comprehensive assessment of regional demand for the proposed program. The first examines all job postings for the middle-skill applied AI occupations and the second focuses on *video game designers (15-1255.01)*, an emerging occupation marked as a subset of *web and digital interface designers*.

Please note, job postings do not equate to labor market demand, rather they provide insights for program development, such as which employers are hiring and the skills they look for from candidates.

Job Postings for Middle-Skill Occupation

There were 3,888 online job postings related to these applied AI occupations listed in the past 12 months. Exhibit 7 shows the number of job postings by occupation. Over 72% of job postings were for *web and digital interface designers*.

Exhibit 7: Number of Job Postings by Occupation (n= 3,888)

Occupation	Job Postings	Percentage of Job Postings
Web and Digital Interface Designers	2,796	72%
Web Developers	1,092	28%
Total Postings	3,888	100%

The top job titles for these middle-skill applied AI occupations in the region, by number of job postings, are shown in Exhibit 8.

Exhibit 8: Top Job Titles by Number of Job Postings for Middle-Skill Occupation (n=3,888)

Job Titles	Job Postings	Percentage
UI/UX Designers	172	4%
UX Designers	139	4%
Back End Engineers	104	3%
Product Designers	103	3%
Web Developers	102	3%
Front End Developers	96	2%
User Experience Designers	82	2%
Game Masters	77	2%
Game Designers	71	2%
UX Researchers	70	2%

The top employers for these middle-skill applied AI occupations in the region, by number of job postings, are shown in Exhibit 9.

Exhibit 9: Top Employers by Number of Job Postings for Middle-Skill Occupation (n=3,888)

Employer	Job Postings	Percentage of Job Postings
Amazon	144	4%
Canteen Vending	129	3%
Riot Games	99	3%
Google	77	2%
Disney	70	2%
Insight Global	61	2%
Robert Half	60	2%
Yotta Games (友塔游戏)	56	1%
Motion Recruitment	51	1%
The Judge Group	51	1%

The top specialized, soft, and computer skills for these middle-skill applied AI occupations listed by those most frequently mentioned in job postings (denoted in parentheses) are shown in Exhibit 10.

Exhibit 10: Top Skills by Number of Job Postings for Middle-Skill Occupation (n=3,888)

Top Specialized Skills	Top Soft Skills	Top Computer Skills
User Experience (UX) (1,541)	Communication (1,689)	JavaScript (Programming Language) (852)
User Interface (UI) (954)	Research (1,030)	Figma (Design Software) (850)
Prototyping (877)	Problem Solving (738)	Cascading Style Sheets (CSS) (784)
User Experience (UX) Design (873)	Innovation (657)	HyperText Markup Language (HTML) (671)
JavaScript (Programming Language) (852)	Leadership (611)	Application Programming Interface (API) (562)
Figma (Design Software) (850)	Detail Oriented (507)	React.js (Javascript Library) (524)
Cascading Style Sheets (CSS) (784)	Troubleshooting (Problem Solving) (426)	Adobe Photoshop (346)
HyperText Markup Language (HTML) (671)	Management (411)	Amazon Web Services (341)
Computer Science (659)	Customer Service (383)	Git (Version Control System) (317)
Front End (Software Engineering) (652)	Collaboration (372)	Python (Programming Language) (308)

Supplemental Job Postings for *Video Game Designers (15-1255.01)*

There were 740 online job postings related to the emerging occupation, *video game designers*, listed in the past 12 months. The top job titles for *video game designers* in the region, by number of job postings, are shown in Exhibit 11.

Exhibit 11: Top Job Titles by Number of Job Postings for *Video Game Designers (n=740)*

Job Titles	Job Postings	Percentage
Game Masters	77	10%
Game Designers	70	9%
Gameplay Engineers	58	8%
Narrative Designers	36	5%
Lead Game Designers	24	3%
Level Designers	22	3%
Lighting Artists	16	2%
Animators	11	1%
Game Designers/Level Designers	10	1%
Game Producers	10	1%

The top employers for *video game designers* in the region, by number of job postings, are shown in Exhibit 12.

Exhibit 12: Top Employers by Number of Job Postings for *Video Game Designers (n=740)*

Employer	Job Postings	Percentage of Job Postings
Canteen Vending	107	14%
Riot Games	70	9%
Yotta Games (友塔游戏)	58	8%
Sony Interactive Entertainment	32	4%
Disney	24	3%
Tencent	20	3%
Nike	15	2%
Netflix	12	2%
Anduril Industries	10	1%
Electronic Arts	9	1%

The top specialized, soft, and computer skills for *video game designers* listed by those most frequently mentioned in job postings (denoted in parentheses) are shown in Exhibit 13.

Exhibit 13: Top Skills by Number of Job Postings for *Video Game Designers (n=740)*

Top Specialized Skills	Top Soft Skills	Top Computer Skills
Game Design (261)	Communication (340)	Unreal Engine (192)
Unreal Engine (192)	Research (184)	AAA Video Games (146)
Video Game Development (187)	Problem Solving (131)	Unity Engine (141)
Scripting (185)	Innovation (115)	C++ (Programming Language) (119)

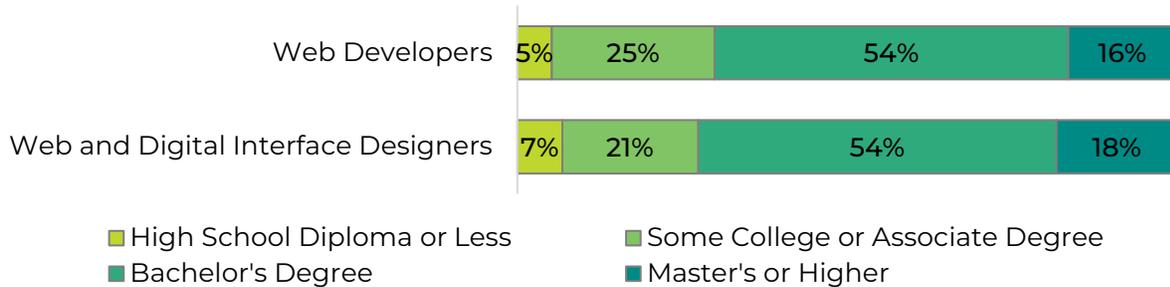
Animations (166)	Writing (112)	Autodesk Maya (115)
AAA Video Games (146)	Leadership (106)	Game Engine (98)
Unity Engine (141)	Mentorship (86)	Adobe Photoshop (69)
Workflow Management (128)	Creativity (76)	C# (Programming Language) (61)
C++ (Programming Language) (119)	Self-Motivation (73)	Python (Programming Language) (51)
Autodesk Maya (115)	Customer Service (70)	Lua (Scripting Language) (44)

Educational Attainment

The Bureau of Labor Statistics (BLS) lists a lists bachelor's degree for *web and digital interface designers* and *web developers*.

The national-level educational attainment data indicates between 21% and 25% of workers in the field have completed some college or an associate degree as their highest level of education. Exhibit 14 shows the educational attainment for each occupation, sorted by highest community college educational attainment to lowest.

Exhibit 14: National-level Educational Attainment for Occupations



Requested Minimum Education Requirement

Of the cumulative job postings for these applied AI occupations in Los Angeles and Orange counties that listed a minimum education requirement:

- 39% (1,503) of Middle-Skill Job Postings
 - 7% (110) requested a high school diploma or associate degree.
 - 88% (1,321) requested a bachelor's degree.
- 24% (176) of *Video Game Designers* Job Postings
 - 16% (28) requested a high school diploma or associate degree.
 - 82% (144) requested a bachelor's degree.

Educational Supply

The following supply tables display the total supply for these middle-skill applied AI occupations that align with these TOP and CIP codes and program needs.

Community College Supply

Exhibit 15 shows the three-year average number of awards conferred by community colleges in the related TOP codes:

- Website Design and Development (0614.30)
- Software Applications (0702.10)
- Computer Software Development (0707.00)
- Computer Programming (0707.10)

The colleges with the most completions in the region are Orange Coast (216), followed by Mt San Antonio (87), and Santa Monica (87). Over the past 12 months, there was one other related program recommendation requests from regional community colleges.

Exhibit 15: Regional Community College Awards (Certificates and Degrees), 2021-24

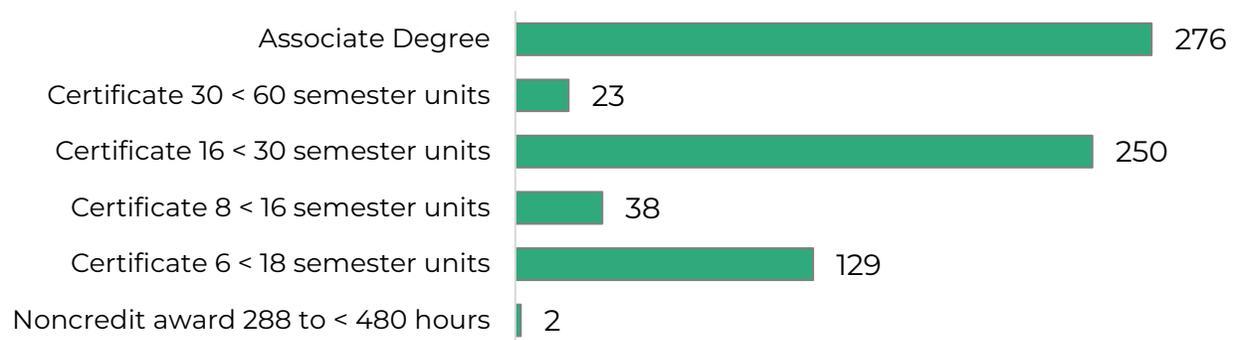
TOP Code	Program	College	2021-2022 Awards	2022-2023 Awards	2023-2024 Awards	3-Year Award Average
0614.30	Website Design and Development	Citrus	1	0	0	0
		LA Pierce	5	0	3	3
		Long Beach	0	6	9	5
		Mt San Antonio	1	0	0	0
		Pasadena	7	3	10	7
		Santa Monica	2	5	3	3
		West LA	3	4	6	4
		LA Subtotal	19	18	31	23
		Coastline	0	4	0	1
		Fullerton	2	0	1	1
		Irvine	4	1	0	2
		Orange Coast	13	8	14	12
		Saddleback	4	6	6	5
		Santiago Canyon	5	2	0	2
		OC Subtotal	28	21	21	23
Supply Subtotal/Average			47	39	52	46
0702.10	Software Applications	Cerritos	8	21	28	19
		Glendale	0	0	1	0
		LA City	0	2	1	1
		Long Beach	0	0	1	0
		Mt San Antonio	1	1	0	1
		Santa Monica	12	15	17	15
		LA Southwest	3	0	0	1

TOP Code	Program	College	2021-2022 Awards	2022-2023 Awards	2023-2024 Awards	3-Year Award Average
		LA Subtotal	24	39	48	37
		Coastline	14	53	20	29
		Cypress	2	1	1	1
		Irvine	89	67	31	62
		Saddleback	10	10	10	10
		OC Subtotal	115	131	62	103
Supply Subtotal/Average			139	170	110	140
0707.00	Computer Software Development	LA City	1	0	0	0
		LA Harbor	2	2	0	1
		LA Mission	2	0	0	1
		LA Pierce	7	7	9	8
		Santa Monica	1	2	0	1
		West LA	6	1	4	4
		LA Subtotal	19	12	13	15
		Golden West	4	1	1	2
		Saddleback	15	16	24	18
		OC Subtotal	19	17	25	20
		Supply Subtotal/Average			38	29
0707.10	Computer Programming	Cerritos	7	2	2	4
		Citrus	9	7	9	8
		East LA	0	1	2	1
		Glendale	0	0	1	0
		LA City	10	19	30	20
		LA Harbor	4	6	1	4
		LA Mission	7	6	15	9
		LA Pierce	5	7	7	6
		LA Valley	8	15	15	13
		Long Beach	7	4	4	5
		Mt San Antonio	125	65	68	86
		Pasadena	23	37	46	35
		Santa Monica	71	55	77	68
		West LA	0	0	1	0
		LA Southwest	2	3	3	3
		LA Subtotal	278	227	281	262
		Coastline	1	2	0	1
		Cypress	5	5	6	5

TOP Code	Program	College	2021-2022 Awards	2022-2023 Awards	2023-2024 Awards	3-Year Award Average
		Fullerton	28	32	1	20
		Orange Coast	160	250	202	204
		Santa Ana	0	0	5	2
		Santiago Canyon	2	3	4	3
		OC Subtotal	196	292	218	235
		Supply Subtotal/Average	474	519	499	497
		Supply Total/Average	698	757	699	718

Exhibit 16 shows the annual average community college awards by type from 2021-22 to 2023-24. The plurality of the awards are for associate degree, followed by certificate 16 to 30 semester units and certificate 6 to 18 semester units.

Exhibit 16: Annual Average Community College Awards by Type, 2021-2024



Community College Student Outcomes

Exhibit 17 shows the Strong Workforce Program (SWP) metrics for computer software development programs in South Orange County Community College District (SOCCCD), the Orange County Region, and California. Of the 637 Orange County computer software development students in the 2023-24 academic year, 67% (424) attended an SOCCCD college.

SOCCCD students that exited computer software development programs in the 2022-23 academic year had higher median annual earnings (\$60,604 or \$29.14 per hour) compared to all computer software development students in Orange County (\$50,096 or \$24.08 per hour). A higher percentage of SOCCCD computer software development students attained the living wage (51%) when compared to all computer software development students in Orange County (43%).

Exhibit 17: Computer Software Development (0707.00)
Strong Workforce Program Metrics, 2021-24⁴

SWP Metric	SOCCCD	OC Region	California
SWP Students	424	637	6,288
SWP Students Who Earned 9 or More Career Education Units in the District in a Single Year	25%	29%	27%

⁴ All SWP metrics are for 2023-24 unless otherwise noted.

SWP Students Who Completed a Noncredit CTE or Workforce Preparation Course	67%	72%	67%
SWP Students Who Earned a Degree or Certificate or Attained Apprenticeship Journey Status	14	15	139
SWP Students Who Transferred to a Four-Year Postsecondary Institution (2022-23)	33	59	475
SWP Students with a Job Closely Related to Their Field of Study (2021-22)	Insufficient Data	67%	64%
Median Annual Earnings for SWP Exiting Students (2022-23)	\$60,604 (\$29.14)	\$50,096 (\$24.08)	\$52,028 (\$25.01)
Median Change in Earnings for SWP Exiting Students (2022-23)	8%	10%	22%
SWP Exiting Students Who Attained the Living Wage (2022-23)	51%	43%	48%

Non-Community College Supply

To comprehensively analyze the regional supply, it is crucial to include data from other institutions offering computer software development programs. Exhibit 18 displays the annual and three-year average awards granted by these institutions under the related Classification of Instructional Programs (CIP) codes:

- Computer Programming/Programmer, General (11.0201)
- Web Page, Digital/Multimedia and Information Resources Design (11.0801)

The available data covers 2020 to 2023. During this period, non-community college institutions in the region conferred an average of 28 awards annually in related program.

Exhibit 18: Regional Non-Community College Awards, 2020-2023

CIP Code	Program	College	2020-2021 Awards	2021-2022 Awards	2022-2023 Awards	3-Year Award Average
11.0201	Computer Programming/Programmer, General	ABCO Technology	34	14	17	22
		Platt College-Anaheim	0	0	0	0
Supply Subtotal/Average			34	14	17	22
11.0801	Web Page, Digital/Multimedia and Information Resources Design	Los Angeles Pacific College	4	6	2	4
		Platt College-Anaheim	0	0	0	0
		Westcliff University	3	4	1	3
Supply Subtotal/Average			7	10	3	7
Supply Total/Average			41	24	20	28

Regional Demographics

The following section presents occupational, community college program, and population demographic data for Orange County. This comparison can help identify possible equity gaps between the local workforce and the student pipeline who are preparing for these occupations. These insights can inform program development, outreach, and support strategies to better align community college programs with current labor market needs.

Ethnicity

Exhibit 19 compares the ethnicity of Orange County community college students enrolled in computer software development programs, the overall Orange County population, and occupation-specific data for the two applied AI occupations included in this report.

Nearly half (46%) of the applied AI workforce is white, which exceeds their representation in computer software development programs (32%). In contrast, Hispanic or Latino individuals make up 24% of program enrollment but only 18% of the workforce. This disparity suggests a potential disconnect between education and employment outcomes, and that white workers may be entering these jobs through alternate training pathways. Alternatively, Asian (students 30%, workers 31%) and Black or African American (students 2%, workers 1%) individuals show closely aligned shares, suggesting a proportional education-to-employment pipeline for these groups.

Exhibit 19: Program and County Demographics by Ethnicity

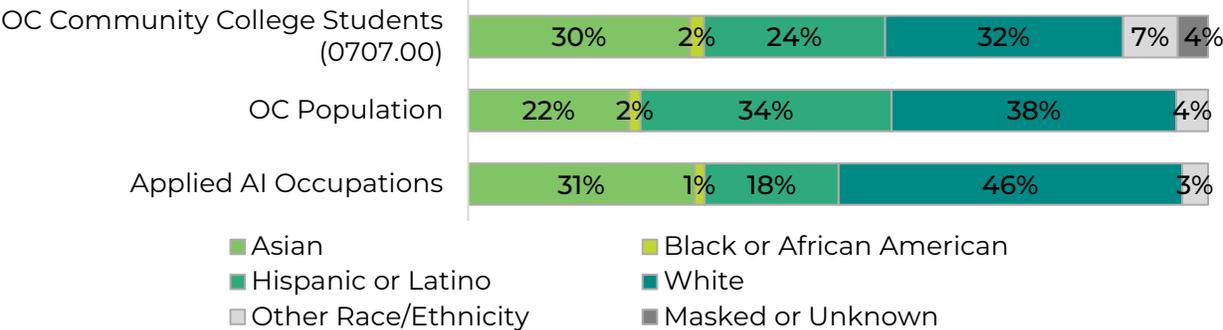
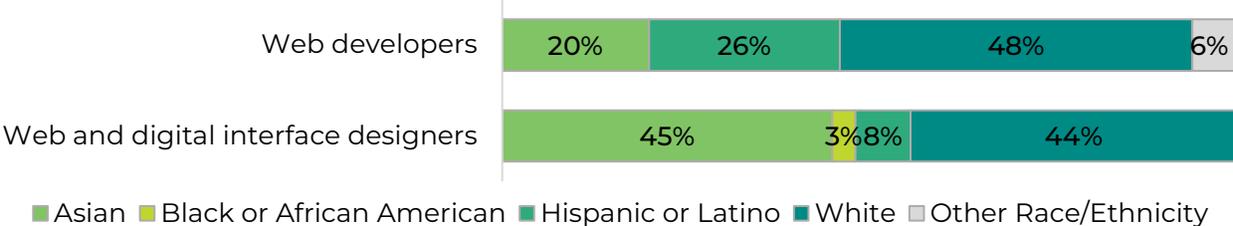


Exhibit 20 shows the disaggregated ethnicity data for each occupation, revealing potential disparities in entry into well-paying occupations or career advancement.

White individuals have strong representation in both the higher-paying and lower-paying applied AI occupations (44% of *web and digital interface designers* and 48% of *web developers*, respectively). Asian workers are most concentrated in the higher-paying occupation, where they make up 45% of the workforce. In contrast, Hispanic or Latino and Black or African American individuals have the highest representation among the lower-paying occupation (26% and 3%, respectively).

Exhibit 20: Disaggregated Ethnic Distribution by Occupation



Age

Exhibit 21 compares the age of Orange County community college students enrolled in computer software development programs, the overall Orange County population, and occupation-specific data for the two applied AI occupations included in this report.

The majority of workers (64%) are aged 25 to 49, indicating a concentration of early- to mid-career workers. In contrast, students in related programs skew younger, with 60% aged 24 or less. This gap suggests that additional training or experience may be required before entering the applied AI workforce.

Exhibit 21: Program and County Demographics by Age

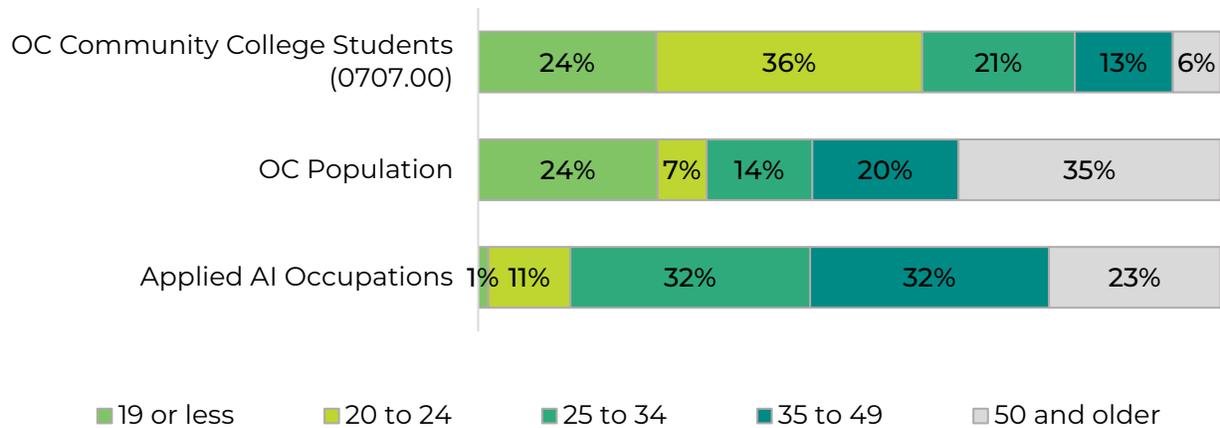
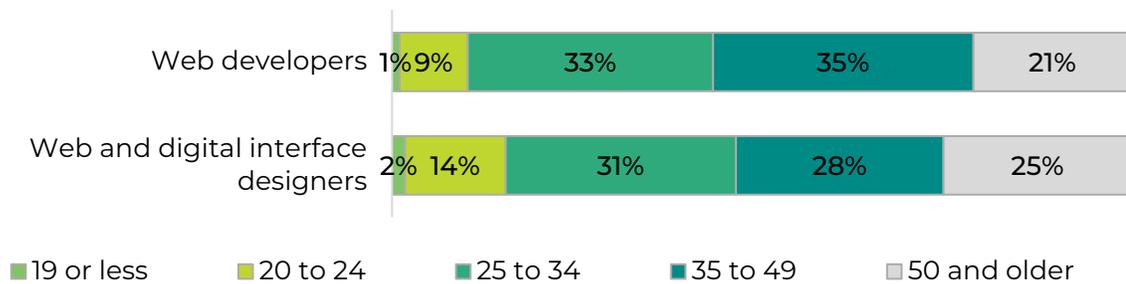


Exhibit 22 shows the disaggregated age data for each occupation, revealing potential disparities in entry into well-paying occupations or career advancement.

Both applied AI occupations have a high concentration of individuals aged 25 to 49, suggesting these occupations primarily attract early- to mid-career professionals.

Exhibit 22: Disaggregated Age Distribution by Occupation



Sex

Exhibit 23 compares the sex of Orange County community college students enrolled in computer software development programs, the overall Orange County population, and occupation-specific data for these applied AI occupations.

Though the population is split evenly between women and men, only 37% of applied AI workforce and 26% of community college enrollments, are women.

Exhibit 23: Program and County Demographics by Sex

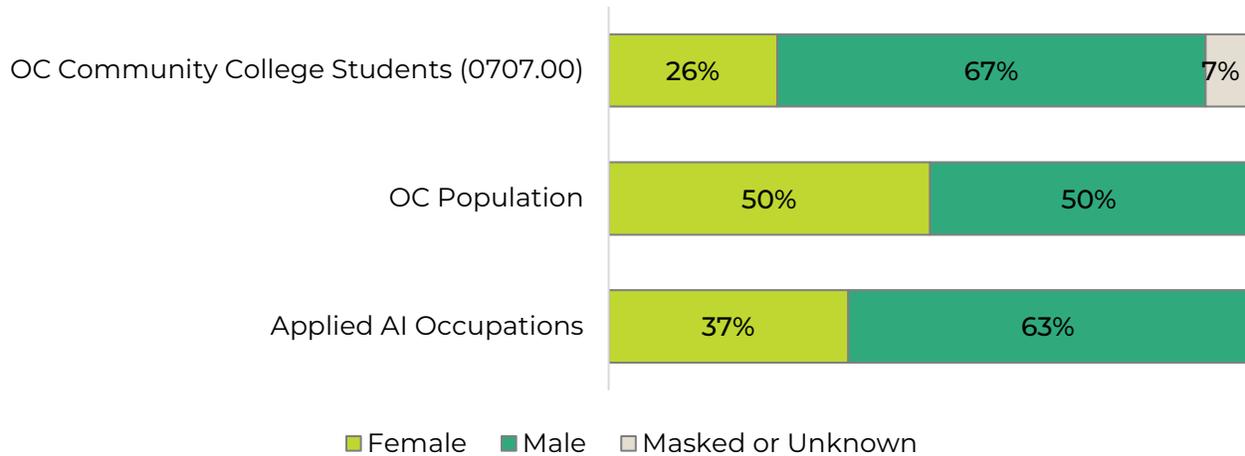
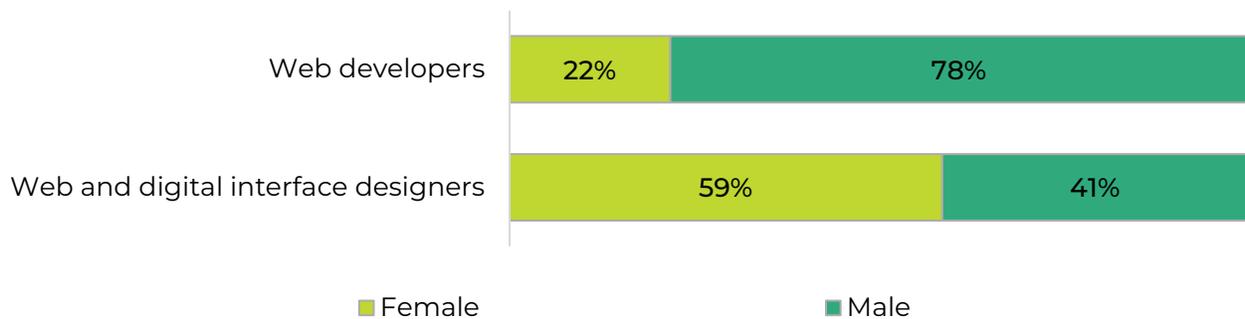


Exhibit 24 shows the disaggregated sex data for each occupation, revealing potential disparities in entry into well-paying occupations or career advancement.

Gender representation varies across applied AI occupations. The lower-paying occupation, *web developers*, has the largest share of male workers (78%), while women make up the majority of the higher-paying occupation, *web and digital interface designers* (59%). These contrasts underscore persistent gender disparities in the applied AI workforce, with technical specializations skewing male and design-based roles skewing female.

Exhibit 24: Disaggregated Sex Distribution by Occupation



Appendix A: Methodology

OC COE prepared this report by analyzing occupational and educational program data. Occupational data comes from Lightcast, a labor market analytics firm which compiles information from the California Employment Development Department (EDD), U.S. Bureau of Labor Statistics (BLS), and other agencies. Analysis of emerging occupations is predicated on online job postings data combined with Occupational Information Network (O*NET) profile descriptions. Program supply data was sourced from the California Community Colleges Chancellor's Office Data Mart (MIS Data Mart) (datamart.cccco.edu) and the Integrated Postsecondary Education Data System (nces.ed.gov/ipeds/use-the-data), also known as IPEDS, which was integrated into the COE's Supply Table. (IPEDS).

Using a TOP-SOC crosswalk, the OC COE identified middle-skill jobs for which programs within these TOP codes train. Middle-skill jobs include:

- All occupations that have an educational requirement of some college, associate degree or apprenticeship;
- All occupations that require a bachelor's degree, but also have more than one-third of their existing labor force with an educational attainment of some college or associate degree; or
- All occupations that require a high school diploma or equivalent or no formal education, but also require short- to long-term on-the-job training where multiple community colleges have existing programs.

The OC COE determined labor market supply for each occupation (SOC code) by analyzing the number of 3-year average program completers or awards in related TOP and CIP codes. TOP code data comes from MIS Data Mart and CIP code data comes from the IPEDS. The TOP is a system of numerical codes used at the state level to collect and report information on California community college programs and courses throughout the state that have similar outcomes. CIP codes are a taxonomy of academic disciplines at institutions of higher education throughout the United States and Canada. The California Community Colleges are the only system that use TOP codes.

The analysis reflects labor market demand for occupations closely related to the proposed program as expressed by the requesting college in consultation with the OC COE. assess current and projected employment based on data trends for detailed occupations, as well as annual average awards granted by regional postsecondary educational institutions. Real-time labor market information (online job postings) assesses employer preferences but cannot be used to measure the quantity of open positions, number of jobs, or annual openings.

All findings are based on the most current available data and a combination of primary and secondary sources. While care was taken to ensure accuracy, the OC COE, its host district, and the California Community Colleges Chancellor's Office are not responsible for individual decisions made based on this report.

Appendix B: Data Sources

Data Type	Source
Occupational Projections, Wages, and Job Postings	Traditional and real-time labor market information are captured using data from Lightcast (v.2025.4), a labor market analytics firm.
Living Wage	Per the CCCC's this report's endorsement criteria uses the University of Washington's Center for Women's Welfare Self-Sufficiency Standard last updated in March 2024, which is \$27.13 per hour (\$57,294 annually) in Orange County. The MIT Living Wage , updated on February 10, 2025, is a nationally recognized living wage metric and is provided for reference. The current MIT Living Wage in Orange County is \$32.20.
Typical Education and Training Requirements, and Educational Attainment	The Bureau of Labor Statistics (BLS) uses a system to assign categories for entry-level education, work experience in a related occupation, and typical on-the-job training to each occupation for which BLS publishes projections data.
Emerging Occupation Descriptions, Additional Education Requirements, and Employer Preferences	The O*NET database includes information on skills, abilities, knowledges, work activities, and interests associated with occupations.
Educational Supply	The CCCCO Data Mart provides information about students, courses, student services, outcomes and faculty and staff. The National Center for Education Statistics (NCES) Integrated Postsecondary Integrated Data System (IPEDS) collects data on the number of postsecondary awards earned (completions).
Student Metrics and Demographics	Data Vista (v.2.0), a statewide data system supported by the California Community Colleges Chancellor's Office provides data on progress, success, employment, and earnings outcomes for California community college students.
Population and Occupation Demographics	The Census Bureau's American Community Survey (ACS) is the premier source for detailed population and housing information. Data is sourced from IPUMS USA , a database providing access to ACS and other Census Bureau data products.

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FOR LABOR MARKET RESEARCH

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