

IT & Cybersecurity Sector

Sector Strategy Update: Spring 2025

Prepared by Computing for All (CFA)

Please describe the greatest workforce needs facing your sector, with a focus on needs that career connected learning strategies can help to address.

The following are the greatest workforce needs facing our sector:

Employers are looking for experience and soft skills

Employers ask for entry-level jobs, but-most entry-level jobs require 1-3 years of experience, which students coming out of college degree programs don't have. It is important to build in experiences that offer students opportunities for work-based learning such as capstone projects, hands-on project work, Career Launch internships, and apprenticeships. These are very important for our strategy.

Employers also ask for soft skills such as collaboration, problem-solving, communication, etc. Many employers have told us that these are more valuable than tech skills, which they can teach. These are important as most tech jobs require you to work in teams and collaborate with others. Students can be trained in these skills via the work-based experiences mentioned above. For example, North Seattle College has a collaboration with Riipen in the Tech Talent Boost program, which provides a 4 week project based experience to all participants of the program where the projects are provided by an employer. This type of experience helps students to build the skills necessary to collaborate in a team as well as problem solving and critical thinking skills, all of which are essential for students to improve their employability and to apply in an entry-level job.

Lack of a diverse talent pipeline

According to Scoring Tech Talent (CBRE, 2024) the statistics for diversity in the tech sector across all industries was little changed over the past five years and remains predominantly White, Asian and male relative to total employment and office-using employment. Only 21% of tech talent jobs in the U.S. are held by women. U.S. Census Bureau data from 2022 shows that Hispanics, Blacks, other non-Whites, non-Asians and females were underrepresented.

There is a lack of mentors and representation for diverse candidates, which leads to underrepresentation in the tech sector. As technology increasingly pervades different facets of our lives, it is important to bring diverse voices to the table so that tools and services are designed with different viewpoints and can address diverse needs.

Huge gap in employer demand for projected annual openings in computer occupations vs. annual completers of bachelor's and graduate degrees in these fields

**Figure 18: Computer and Information Technology - Bachelor's and Graduate Level
Annual Job Openings Compared to Certificate and Degree Completions
2023-2033**



Source: Lightcast Q4 2023 Data Set; ESD; Integrated Postsecondary Education Data System (IPEDS)

Additional Source: The [HELM](#) Report, WA State, 2023

WA state has added bachelor's programs to community and technical colleges, thanks to Governor Inslee signing bill 5401 in 2021 that allows these colleges to offer bachelor's degrees in computer science. These programs increase educational pathways, particularly for professional and technical associate graduates, people of color, older working adults, and those with family responsibilities. With the recent bill, 14 out of 34 community and technical colleges in our state now offer a bachelor's degree in information technology: Application Development, Computer Science, Cybersecurity and Information Technology. However, this still leaves a significant gap to fill employer demand.

Lack of access to programs in rural areas

Students in rural parts of WA state are being left behind. Rural schools are small with small class sizes and don't often have resources to offer CTE programs. There is a severe shortage of teachers to teach Information Technology courses in rural areas, let alone developed areas. Programs like TEALs that are volunteer-led help to fill the need somewhat but often are unable to find volunteers in rural areas.

Lack of trained teachers

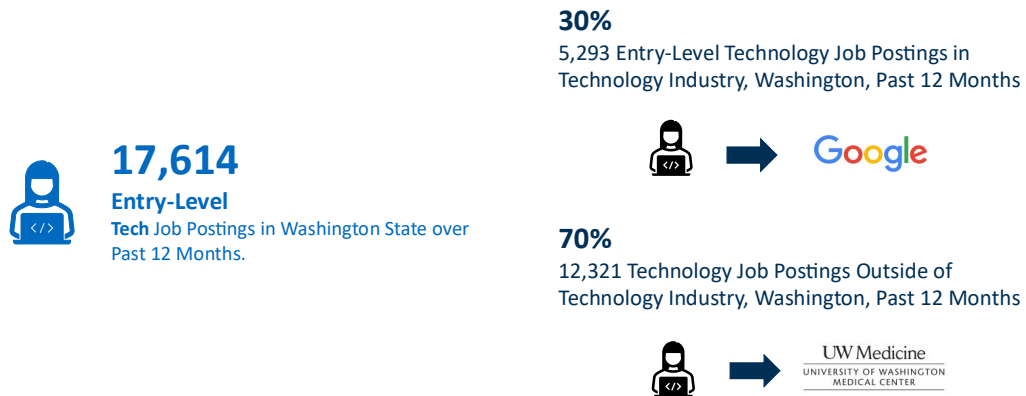
There is a severe shortage of teachers to teach Information Technology courses. Teachers are often lured away by well-paying jobs in the private sector.

Significant demand for Tech roles in non-tech industry: Healthcare, Finance, Manufacturing etc. and Public Sector.

Data shows that over 60% of tech roles are outside the tech sector. Notably, 68% of tech job postings in the past year came from non-tech industries like Retail, Waste Management, Manufacturing, and Finance (Lightcast). This unprecedented growth in Washington, particularly in non-traditional tech industries, will require businesses to rethink their talent recruitment and training strategies, with a heightened focus on preparing talent to meet the state's future demand.

This is an area ripe for improved outcomes. We will dig deeper by developing partnerships and strategies with sector leaders to reach their employers looking to hire tech talent. Similarly, we continue to develop strategies and engage specific groups of employers such as public sector, staffing companies, startups and others.

In the past year, 70% of entry-level technology job postings came from companies outside the tech industry, a 5% increase since the last data pull, highlighting the continued spread of tech roles and skills across all sectors.



*Source: Lightcast

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Emerging technologies

AI is here! Driven by the findings of the [Transformational Opportunity of AI on ICT Jobs Report](#) (Cisco, 2024), we are intent on understanding how Generative AI is rapidly impacting the tech pathways prioritized in the sector strategy. The report identifies 47 roles across seven career pathways and offers sound solutions to align required skills with existing training to fill gaps where necessary. We are also focused on how those AI skills can be adopted into viable and nimble career pathway programs in high school and colleges. Additionally, we are refining and redefining the career readiness skills students need to be prepared to respond to the rapidly changing world of Generative AI.

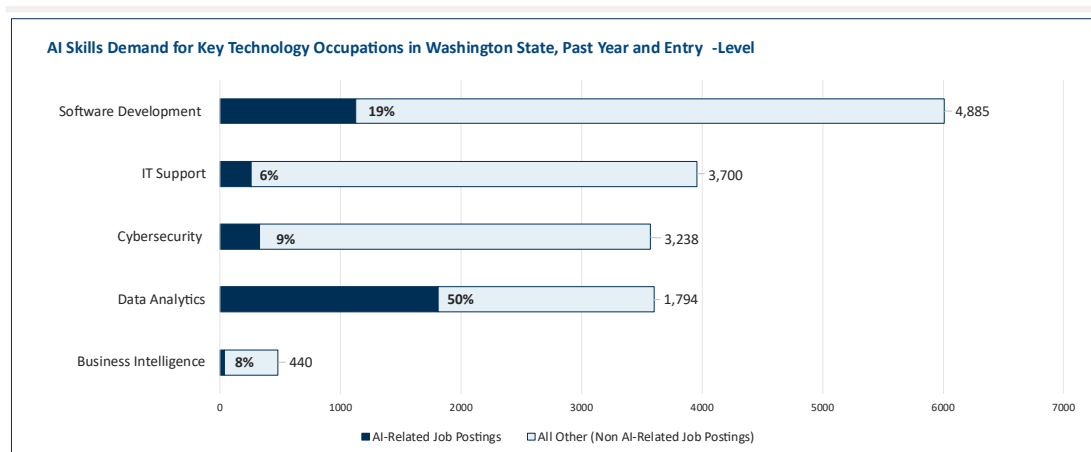
Seattle ranks fifth globally for Generative AI job demand, surpassing cities like New York and London (Lightcast). Washington saw over 14,700 AI-related job postings in 2023 alone (Stanford University) and ranks among the top states for AI startup and investor activity (WTIA). Aside from job growth, AI will require upskilling and reskilling talent in technology roles. By aligning with Seattle's AI Tech Hub Initiative, the AI House, we can integrate workforce development into broader economic strategies. The AI Consortia report cites Public Sector and Health as high-value targets for talent development. Conferring with the WJI Council, Accenture and AWS, coupled with labor market data, we can refine priority sectors. A regionally focused example is the data centers that are thriving in the North Central region of WA state. We are working with the NCESD region to produce viable candidates powered by the adaptive AI skills that data center employers require. We are working with BHEF to refresh the labor market data for tech jobs, with a specific lens towards impact of AI skills on tech roles.

Between now and June of 2026, what are your sector's 3-6 occupations that are highest-priority for building supportive career connected learning pathways? Please focus on occupations that lead to economic self-sufficiency.

- **Computer User Support Specialist/Cloud Support Engineer:** Assist computer users and organizations. They either maintain computer networks or provide technical help directly to computer users.
- **Data Center Technician:** A Data Center Technician is a Network and Computer Systems Administrator who specializes in Data Center operations such as installing, maintaining, troubleshooting, and repairing a data center's computer and network systems including all hardware, and software.
- **Software Developer:** Create computer applications that allow users to do specific tasks and the underlying systems that run the devices or control networks.
- **Cyber / Information Security Engineer:** Responsible for designing and developing systems to protect company and customer data from hackers or any cyber-attacks.
- **Data Analyst:** A data analyst collects data, organizes, and uses it to reach meaningful conclusions. They are responsible for digesting the data and creating a report to explain the findings to help identify inefficiencies and other business problems that may exist.

Regarding **AI**, we will focus on the impact of AI skills on all the pathways above.

Over half of data-related job postings request AI skills, while around one in five software development roles do the same. In contrast, AI skills are less frequently required for IT, cybersecurity, and business intelligence positions.



Source: Lightcast

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We also need to keep an eye on a growing entry-level role for **Artificial Intelligence Engineer**. The job titles that fall under “Artificial Intelligence Engineer” are Machine Learning Engineer – 492 Postings, Natural Language Processing Engineer – 186 Postings, and Generative AI Engineer – 171 Postings, and a few others with a smaller number of postings. Of those Machine Learning Engineer job postings over the past year in Washington for entry-level (0-3 years of experience) **60% are looking for a bachelor's degree** as the education

requirement, and 23% are looking for a masters, and these roles are largely concentrated within traditional tech companies. We should talk to the companies seeking a bachelor's degree for this role to see if there is a need for creating a bachelors in ML in WA.

Top Job Titles Posted for Entry - Level Technology Roles in Washington State (Past 12 Months)



*Source: Lightcast

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We should consider exploring an emerging entry-level occupation from the Business and Management sector, **Business Intelligence Analyst** (within the context of our existing high priority occupation, Data Analyst) as it is slated for a high level of AI transformation.

For each of the occupations identified above, please provide the information below to help inform pathway development efforts and investments.

Occupation: <u>Computer User Support Specialist/Cloud Support Technician</u>	Sub-sector:
Average wage: <u>\$66,770</u> <i>Source: ONET</i>	
Which skills/competencies do employers use as a benchmark to hire someone in this occupation? Computer User Support Specialist: <ul style="list-style-type: none"> • Hardware installation and configuration • Troubleshooting and repair computers • Setup, configure and secure 	Which credentials do employers cite as a valuable benchmark to hire someone in this occupation? <ul style="list-style-type: none"> • CompTIA A+, ITF+, Network+ • AWS Certified Cloud Practitioner, AWS Solutions Architect • Microsoft Azure Fundamentals • Google Associate Cloud Engineer

<p>networks</p> <ul style="list-style-type: none"> • Automation tools and scripting • Customer service and communication skills • Problem solving skills • Teamwork skills 	
<p>Please describe possible career progression opportunities for this occupation:</p> <p>Computer User Support Specialist->Computer Network Support Specialists->Network and Computer Systems Administrators</p>	
<p>Please share the data, employer feedback, and/or Regional Network feedback that helped you identify this as a high-priority occupation:</p> <p>Computer User Support Specialist is one of the more accessible pathways in IT for entry-level roles.</p> <p>Projected growth rate for this occupation in WA state is 28% between 2020-2030.</p> <p>The US Bureau of Labor Statistics (BLS) forecasts that cloud computing employment opportunities will grow by 15 percent in the ten years between 2021 and 2031. This impressive growth is driven by factors such as businesses' rising cloud migration rate and the increasing demand for more effective and efficient methods for storing, managing, and analyzing data.</p> <p>Wenatchee School District developed a Computer Tech 1 Youth Apprenticeship in for IT Support starting in 2018.</p> <p>The Southwest Regional Network scaled CFA's Computer and Software Technician (CAST) curriculum as a pathway to students in the ESD112 Rural CTE Cooperative (WJI grant).</p> <p>WABS, the King and Pierce Regional Network, would like to expand the CAST Career Launch program via a Youth Apprenticeship across 13 partner school districts in the region. This program is being developed in partnership with CFA, Federal Way School District and CareerWise. In the first phase, the program will be rolled out at Federal Way School District starting in fall 2025 with Federal Way School District IT as the employer. This program will prepare students for roles in IT Support and Cybersecurity.</p> <p>CFA is working with the Business Higher Ed Forum (BHEF) to create a Workforce Partnership Initiative between community colleges and business in WA state. As part of their work, they researched and gathered labor market data for tech roles across the 9 CCW regions in WA state.</p> <p><i>Demand for Computer Support Specialists in Puget Sound region (King & Pierce) and Southwest WA (BHEF):</i></p>	

Top Companies Hiring and Top Job Titles for Entry – Level Technology Talent in Puget Sound Region Washington

Amazon	2,948
Meta	329
Microsoft	322
Google	292
Tiktok	289
Costco	164
Apple	158
Blue Origin	157
BCforward	148
University of Washington	126
SpaceX	123
Insight Global	120
Randstad	118
Kforce	107
Aquent	104
Bytedance	90
ManpowerGroup	89

Software Developer / Engineer

2,611

Job Postings (Past 12 Months)

Computer Support Specialist

1,230

Job Postings (Past 12 Months)

Computer Systems Engineer

987

Job Postings (Past 12 Months)

*Source: Lightcast

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Top Companies Hiring and Top Job Titles for Entry – Level Technology Talent in Southwest

450

Entry- Level Job Postings for Technology Occupations for any Industry (Past 12 Months) in Southwest.

Fisher Investments	68
PeaceHealth	28
Bonneville Power Administration	23
United States Department of Energy	16
Insight Global	11
HP	10
ZoomInfo Technologies	8
Express Employment Professionals	8
Robert Half	7
TEKsystems	6
GAF Materials Corporation	5
The Vancouver Clinic	5
Motus Recruiting and Staffing	4
Vanderhousen	4
Columbia Credit Union	4
Edge Networks	4
Actalent	3

Computer Support Specialist

115

Job Postings (Past 12 Months)

Software Developer / Engineer

47

Job Postings (Past 12 Months)

Systems Analyst

38

Job Postings (Past 12 Months)

*Source: Lightcast

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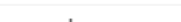


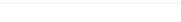

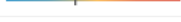

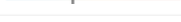





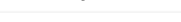


Source: Lightcast

Seattle King County WDC presented the following job posting analytics for Computer User Support Specialists from Sept-Oct 2023 using Lightcast data:

- Median advertised wage is \$58,400
- 47 percent of jobs listed no minimum educational requirements

- 22 percent of posted jobs listed high school diploma as the minimum educational requirement
- 52 percent of the job postings listed a minimum experience requirement of 1 year or less
- Top listed qualifications were CompTIA A+ and CompTIA Network+
- Top hiring cities: Seattle, Bellevue, Redmond, Kent
- Top Employers hiring for this role:

Top Companies Posting

Company	Total/Unique (Sep 2023 - Oct 2023)	Posting Intensity	Median Posting Duration
Robert Half	10 / 8	1 : 1 	8 day
Best Buy	16 / 7	2 : 1 	23 day
University of Washington	27 / 5	5 : 1 	n/
The Pokemon Company International	15 / 5	3 : 1 	5 day
Randstad	8 / 5	2 : 1 	3 day
Amazon	5 / 4	1 : 1 	20 day
Geopaq Logic	17 / 4	4 : 1 	21 day
Excell, A Division Of Compucom Systems	10 / 4	3 : 1 	8 day
Accenture	7 / 4	2 : 1 	n/
Harbor Foodservice	11 / 4	3 : 1 	16 day
Henry Schein	5 / 3	2 : 1 	n/
Dynamic Partners	5 / 3	2 : 1 	n/
Edmonds College	9 / 3	3 : 1 	46 day
TEKsystems	3 / 3	1 : 1 	13 day
Kustom Agency	4 / 3	1 : 1 	n/
Harborview Medical Center	5 / 3	2 : 1 	12 day
SpaceX	6 / 3	2 : 1 	3 day
State of Washington	5 / 3	2 : 1 	n/
Tacoma Public Schools	6 / 3	2 : 1 	14 day
BCforward	12 / 3	4 : 1 	24 day

Source: Lightcast

For each region below, which workforce education & training programs are effectively meeting employer needs, or could effectively meet their needs with adjustment or expanded capacity?

	Career Explore	Career Prep	Career Launch	Post-Secondary/Training Program
			Apprenticeship across WA state (Apprenti)	Link to IT certificates and degrees across the state (select Information Technology from

				Select Category)
Capital				
East				
King & Pierce			CFA Youth Apprenticeship (in development) Cloud Computing Career Launch (Bellevue College, Bates Technical College, Cascadia College, Renton Technical College)	Per Scholas Year Up Vets2Tech
Mid-Columbia			Cloud Computing Career Launch (Columbia Basin College)	IT Support Technician AAS, Computer and Information Technology Certificate (Columbia Basin)
North Central			Computer Tech 1 Youth Apprenticeship (Wenatchee School District) NCESD Career Launch Computer Technician Certificate (Wenatchee Valley)	NCESD Career Launch Computer Technician Certificate (Wenatchee Valley)
Northwest			Cloud Computing Career Launch (Skagit Valley)	Information Technology ATA and AAS

			College, Whatcom Community College)	degrees (Everett)
South Central			CAST IT Support Career Launch (West Valley School District, Yakima Skills Center)	
Southwest			Computer Support Specialist (AAT) (Clark)	
West Sound				

Between now and June of 2025, where is there regional momentum to support pathway development in this occupation?

For each region listed, please describe:

1. **Key momentum factors** (e.g., interested employers, high-priority for Regional Network, opportunity to improve equitable access, opportunity to scale existing programs, portions of CCW pathway already built)
2. **High-potential opportunities** to support pathway development
3. *Is supporting those high-potential opportunities a **shared priority** across SL and RN?*

King/Pierce RN

1. High priority for RN
2. Opportunity to scale existing programs (CAST)
 - a. CCW pathway (CAST) is already built
3. Opportunity to improve equitable access
4. Supporting this work is a shared priority across SL and RN

Southwest RN

1. High priority for RN
2. Opportunity to scale existing programs (CAST)
 - a. CCW pathway (CAST) is already built
3. Opportunity to improve equitable access by developing and delivering programs to rural school districts
4. Supporting this work is a shared priority across SL and RN.

Northwest

- Active employer demand for IT programs and interest in expansion (Everett Community College).

East

- Burgeoning technology, entrepreneurship, and start-up community with increased social and industry participation. Spokane CC and Spokane Falls colleges offering a wide range of certificate, associates and bachelors IT programs.

Occupation: Data Center Technician	Sub-sector:
Average wage: \$66,770 (Average wage for Computer User Support Specialists in WA state) <i>Source: ONET</i>	
Which skills/competencies do employers use as a benchmark to hire someone in this occupation? <ul style="list-style-type: none"> • Hardware installation, and configuration • Troubleshooting and repair computers • Setup, configure and secure networks • Automation tools and scripting • Customer service and communication skills • Problem solving skills • Teamwork skills 	Which credentials do employers cite as a valuable benchmark to hire someone in this occupation? <ul style="list-style-type: none"> • CompTIA A+, ITF+, Server+, Network+ • Cisco Certified Network Associate (CCNA) • Cisco Certified Technician (CCT) Data Center
Please describe possible career progression opportunities for this occupation: Technician->Technician Support Specialist->Systems Administrator/Information Technology Manager	
Please share the data, employer feedback, and/or Regional Network feedback that helped you identify this as a high-priority occupation: <p>The North Central Regional Network approached Computing for All (CFA) in 2021 to build a Data Center Technician pathway program in Grant County. A Data Center Technician is a Network and Computer Systems Administrator who specializes in Data Center operations such as installing, maintaining, troubleshooting, and repairing a data center's computer and network systems including all hardware, and software.</p> <p>North Central Washington is attracting major investments from technology-oriented firms such as Microsoft and other companies in their pursuit to launch new data centers regionally. Affordable, reliable hydropower and a robust build-out of high-quality broadband internet access have attracted several different types of business investments. Data centers perform a key role in today's cloud-based internet, storing vast amounts of data at key locations across the country. North Central not only can provide high-speed connections to the internet and inexpensive hydropower and alternative energy to run these centers, but also boasts vast tracts of developable commercial property. <i>Source:</i> North Central Region Workforce Plan. Microsoft announced it will hire over 600 FTEs for its data center operations in Chelan, Douglas, and Grant counties by end of 2026. We need to grow and scale the Data Center Technician Career Launch program in the region to meet the demand for this growing job role.</p> <p>Employers such as NTT, Sabey, Microsoft, CyrusOne, and Vantage are building data centers</p>	

in Grant County and need qualified entry-level IT professionals. The program will provide a needed pathway to Big Bend Community College's IT Systems Administration AAS & AAS-T/Certificate/Cisco Networking Certificate, and training for rural students to find employment.

In addition, there are non-tech employers such as Stemilt Growers (agriculture employers) who are hiring for Network/Systems Administrator and related tech roles:

Demand for Network/Systems Administrators and Computer Support Specialists in North Central WA (BHEF):

Top Companies Hiring and Occupations Entry – Level Technology Talent in North Central Region Washington

Guidehouse	13	Database Administrator 38 Job Postings (Past 12 Months)
The World Bank	12	
Circle - Financial Services	11	
Moss Adams	8	Computer Support Specialist 17 Job Postings (Past 12 Months)
Milestone Technologies	6	
Grant Pud	6	
Roth Staffing Companies	5	Computer Systems Engineer 16 Job Postings (Past 12 Months)
Microsoft	5	
Services KGPCo	4	
Insight Global	4	
NTT DATA	4	
Nesco Resource	4	
ManpowerGroup	4	
Confluence Health	3	
Cupertino Electric	3	
AON	3	
Amazon	2	

*Source: Lightcast

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*Source: Lightcast

Note that Data Center Technician/Engineer jobs roll up in the Database Administrator job posting above. This occupation will continue to be an important investment for the North Central RN over the next couple of years (WJI grant).

For each region below, which workforce education & training programs are effectively meeting employer needs, or could effectively meet their needs with adjustment or expanded capacity?

	Career Explore	Career Prep	Career Launch	Post-Secondary
				Link to IT certificates and degrees across the state (select

				Information Technology from Select Category)
Capital				
East				
King & Pierce				
Mid-Columbia				
North Central			Data Center Technician Career Launch program (Quincy SD, Wenatchee SD)	Systems Administration AAS/Certificate (Big Bend), Data Center/IT Support Technician Certificate (Wenatchee Valley College)
Northwest				
South Central				
Southwest				
West Sound				

Between now and June of 2025, where is there regional momentum to support pathway development in this occupation?

For each region listed, please describe:

4. Key **momentum factors** (e.g., interested employers, high-priority for Regional Network, opportunity to improve equitable access, opportunity to scale existing programs, portions of CCW pathway already built)
5. **High-potential opportunities** to support pathway development
6. Is supporting those high-potential opportunities a **shared priority** across SL and RN?

North Central Region

1. Key momentum factors:

- Interested employers:
 - Tech sector employers building data centers due to affordable hydropower and high-quality broadband internet access. Employers include Microsoft, Sabey, NTT, Vantage.
 - Adoption of new technologies across industries including agriculture, manufacturing, healthcare. Employers include Stemilt Growers and Lamb Weston.
- High priority for Regional Network
- Opportunity to improve equitable access by targeting rural and dispersed populations.
- Opportunity to scale existing programs: Data Center Technician Career Launch to other school districts in the region to meet employer demand.

2. Supporting this work is a shared priority across SL and RN

Occupation: Software Developer	Sub-sector: Full Stack Developer
Average wage: \$162,390 <i>Source: ONET</i>	
<p>Which skills/competencies do employers use as a benchmark to hire someone in this occupation?</p> <ul style="list-style-type: none"> ● Programming Languages: Familiarity with languages such as JavaScript, Python, Java, or Ruby is essential. ● Front-End Development: Understanding of HTML, CSS, and JavaScript for building user interfaces. ● Back-End Development: Proficiency in server-side technologies like Node.js, Ruby on Rails, or Django. ● Databases: Knowledge of databases (e.g., SQL, NoSQL). ● Version Control: Experience with tools like Git. ● APIs: Understanding of how to work with RESTful APIs. ● Problem-Solving: Ability to troubleshoot and debug code. 	<p>Which credentials do employers cite as a valuable benchmark to hire someone in this occupation?</p> <ul style="list-style-type: none"> ● Bachelor's degree ● Bootcamps ● Real-world project experience

- **Agile Methodology:** Familiarity with **Agile** practices and collaboration.

Please describe possible career progression opportunities for this occupation:

Software Developer->Mid to Senior-level Developer->Technical Lead->Team Manager->Technical Architect->Chief Technology Officer

Please share the data, employer feedback, and/or Regional Network feedback that helped you identify this as a high-priority occupation:

This occupation is among the fastest growing of all tech occupations in WA state. Projected growth rate for this occupation in WA state is [37% between 2020-2030](#).

Edmonds School District, Edmonds College, WABS (King and Pierce County RN) and T-Mobile developed the T-Mobile Explorer Prep Career Launch Full Stack Developer program to meet the growing demand for software developers in our state. The T-Mobile Explorer Prep Career Launch program is on hold.

Southwest Region approached CFA in February 2024 to offer CFA's Pre-Apprenticeship to improve access by offering the program virtually to rural students in their region. OSPI frameworks are being developed for the program in order to offer it in the fall to 6-7 school districts in the Southwest region.

Mentors in Tech (MinT) is building a Career Prep program with materials and SME panels to prepare CTC BAS students for additional equitable and accessible pathways in related but equally well-paying tech roles that their students are not aware of, but many are qualified for and would be excellent candidates. This program is in partnership with MinT 9 partner CTCs. Please see below for the roles and their demand on LinkedIn in WA state (these are approximate number of open full-time positions matching the following position keywords), as well as total compensation data from glassdoor.com 0-1 year of experience, Seattle location:

- Support Engineer (8,200, \$84,650)
- Site Reliability Engineer (3,700, \$145,059)
- Sales Engineer (1,400, \$136,957)
- Project Manager (1,700, \$94,067)
- Product / Program Manager (1,800, \$140,190)
- Data / Business Analyst (8,700, \$84,093)
- DevOps (1,100, \$142,015)
- System / Database Administrator (7,900, \$69,601)
- User Experience Designer (300, \$126,536)
- Technical Writer (60, \$85,814)
- Software Test Engineer (500, \$104,606)
- Technical Account Manager (300, \$133,164)

MinT employer partners include GitHub, Flutter, MotorQ, chartedsails, MediaPipe, Swhoon

and more.

Demand for Software Developers in Puget Sound region (King & Pierce) and Southwest WA (BHEF)

Top Companies Hiring and Top Job Titles for Entry – Level Technology Talent in Puget Sound Region Washington

Amazon	2,948
Meta	329
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Costco	164
Apple	158
Blue Origin	157
BCforward	148
University of Washington	126
SpaceX	123
Insight Global	120
Randstad	118
Kforce	107
Aquent	104
Bytedance	90
ManpowerGroup	89

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Computer Systems Engineer

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*Source: Lightcast

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Source: Lightcast

For each region below, which workforce education & training programs are effectively meeting employer needs, or could effectively meet their needs with adjustment or expanded capacity?

	Career Explore	Career Prep	Career Launch	Post-Secondary/Training Program
			Apprenticeship across WA state (Apprenti)	Link to Software Development certificates and degrees across the state (select Software Development from Select Category)
Capital		MinT Career Prep for CTC BAS students to prepare them for		

		well-paying tech roles that students are not aware of (Centralia)		
East				
King & Pierce	In-person student visits to tech companies	<p>CFA Full Stack Development Pre-Apprenticeship (Virtual)</p> <p>MinT Career Prep for CTC BAS students to prepare them for well-paying tech roles that students are not aware of (Bellevue, Green River, Lake WA Tech, North Seattle, Renton Tech)</p>	BAS in IT-Software Development (Green River College/MinT)	<p>Edmonds /Seattle Colleges</p> <p>BAS in IT-Software Development (Green River /MinT)</p> <p>Per Scholas Skillspire Year Up Ada Developers Academy Vets2Tech</p>
Mid-Columbia				
North Central	Hour of Code in NCESD region (18 schools, 11 districts, 1 community event, over 600 students and parents participated in Dec '24)			
Northwest		MinT Career Prep for CTC BAS students to prepare them for well-paying tech roles that students are not		AAS Software Development (Whatcom)

		aware of (Cascadia, Edmonds, Skagit Valley)		
South Central	In-person student visits to tech companies			
Southwest		CFA Pre- Apprenticeship in Software Development (in progress)		
West Sound				

Between now and June of 2025, where is there regional momentum to support pathway development in this occupation?

For each region listed, please describe:

7. **Key momentum factors** (e.g., interested employers, high-priority for Regional Network, opportunity to improve equitable access, opportunity to scale existing programs, portions of CCW pathway already built)
8. **High-potential opportunities** to support pathway development
9. *Is supporting those high-potential opportunities a **shared priority** across SL and RN?*

- **King & Pierce**

- Job demand outlook for Software Developers. Projected growth rate for this occupation in WA state is [37% between 2020-2030](#). The highest demand in WA state is in King & Pierce (80%).
- 2. High priority for RN
- 3. Opportunity to scale existing programs
- 4. Shared priority for SL and RN

- **Southwest**

1. Opportunity to improve equitable access by offering CFA PAP virtually to rural school districts (see challenges under question on improving access to BIPOC students below)
2. Opportunity to scale existing programs based on CFA PAP – currently building OSPI frameworks for the program
3. High priority for RN
4. Shared priority for SL and RN

- **King & Pierce, Northwest and Capital**

Job demand outlook in WA state for additional related roles served by MinT Career Prep program:

- a. Sales Engineer: [23% between 2022-2032](#)
- b. Database Administrators: [25% between 2022-2032](#)
- c. Software Quality Assurance Analysts and Testers: [37% between 2020-2030](#)
- d. Web Developers and Digital Interface Designers: [39% between 2020-2030](#)

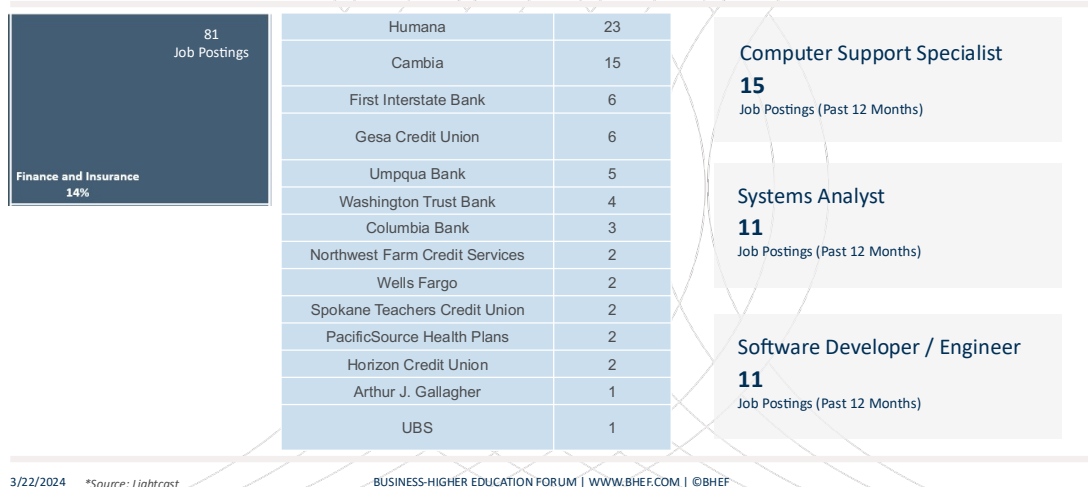
Occupation: Cybersecurity/Information Security Engineer	Sub-sector:
Average wage: \$128,200 <i>Source: ONET</i>	
Which skills/competencies do employers use as a benchmark to hire someone in this occupation? <ul style="list-style-type: none"> • Proficiency in IT, cybersecurity, and computer networking • Expertise in identifying and responding to security threats • Knowledge of data privacy laws and regulations • Proficiency in networks and databases • Communication, collaboration, analytical and problem-solving skills • Business acumen and security awareness • Knowledge of security tools and frameworks, such as firewalls, SIEM, application security, and security architecture • Cybersecurity Frameworks and Standards (e.g., NIST, ISO 27001) • Network Security and Firewalls • Incident Response and Threat Hunting • Security Compliance and Auditing • Programming and Scripting (e.g., Python, PowerShell) 	Which credentials do employers cite as a valuable benchmark to hire someone in this occupation? <ul style="list-style-type: none"> • Bachelor's degree • Work experience • CompTIA Security+ • Certified information Systems Security Professional (CISSP)
Please describe possible career progression opportunities for this occupation: Cybersecurity/Information Security Engineer->Cybersecurity Analyst->Cybersecurity Manager/Architect	
Please share the data, employer feedback, and/or Regional Network feedback that helped you identify this as a high-priority occupation: Cybersecurity Specialists can anticipate and avoid cyber threats, protect an organization's valuable data assets, and can gather, analyze, and present evidence of security breaches and incidents due to cyber terrorists or other intruders.	

This occupation is among the fastest growing of tech occupations in WA state. Projected growth rate for this occupation in WA state is [30% between 2020-2030](#).

CFA and Finance SL, WA Bankers Association (Duncan Taylor) discussed the need for specific IT skills in the Finance sector. Based on data from *Lightcast*, the Northeast, South Central and Southwest regions have high demand for entry-level IT roles in finance and insurance companies. CFA and Finance SL co-developed a pilot program to recruit candidates with cybersecurity and cloud skills for placement with finance and banking employers. Candidates were screened and recruited by CFA, enrolled in a 16 hour *Understanding Banking Fundamentals* course offered by WBA, and interviewed by a team of WBA leads to prepare for interviews and placement with finance and banking employers. See below for top finance and insurance companies hiring for IT roles in the Northeast region:

Demand for IT roles in Finance and Insurance sector (BHEF):

Top Finance and Insurance Companies Hiring for Entry – Level Technology Talent in Northeast Washington and Top Occupations

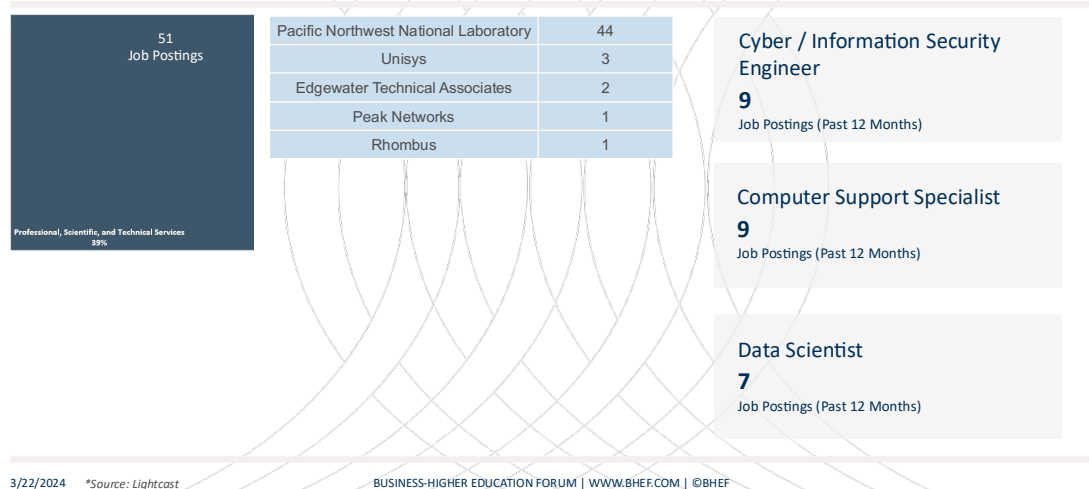


Source: *Lightcast*

Columbia Basin College and Pasco School District's Career Connect Tech program which includes an AAS in Cyber Security prepares students for positions such as Cyber Security Specialists and Technicians, Cybercrime Analysts, and Incident Analysts/Responders. Students who wish to continue with their postsecondary education can enroll in CBC's BAS in Cyber Security program, which prepares them for positions such as Information Security Analysts, Cyber Security Consultants, and Cyber Security Engineers.

Demand for Information Security Analysts in the Mid-Columbia (Southeast) WA below (BHEF):

Top Professional, Scientific, and Technical Services Companies Hiring for Entry – Level Technology Talent in Southeast Washington and Top Occupations






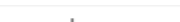

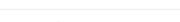
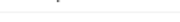

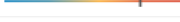










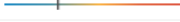










Source: Lightcast

Seattle King County WDC presented the following job posting analytics for Information Security Analysts from Sept-Oct 2023 using Lightcast data:

- 180 unique postings
- Median advertised wage is 160,500 dollars
- 20 percent of jobs listed no minimum educational requirements
- 9 percent of posted jobs listed high school diploma as the minimum educational requirement. 72 percent listed Bachelor's Degree as the minimum educational requirement.
- 21 percent of the job postings listed a minimum experience requirement of 1 year or less. 36 percent listed 4-6 years.
- Top listed qualifications were: Certified Information Systems Security Professional, Certified Information Security Auditor, Certified Information Security Manager
- Top hiring cities: Seattle, Redmond, Bellevue, Tacoma, Issaquah
- Top Employers hiring for this role:

Top Companies Posting

Company	Total/Unique (Sep 2023 - Oct 2023)	Posting Intensity	Median Postin. Duration
Amazon	60 / 35	2 : 1 	16 day
Microsoft	30 / 21	1 : 1 	n/
T-Mobile US	19 / 8	2 : 1 	10 day
Boeing	10 / 7	1 : 1 	n/
Costco	7 / 7	1 : 1 	28 day
Accenture	8 / 6	1 : 1 	20 day
SpaceX	21 / 5	4 : 1 	n/
Tiktok	3 / 3	1 : 1 	n/
CrowdStrike	4 / 3	1 : 1 	30 day
Apple	12 / 3	4 : 1 	n/
Snowflake Computing	4 / 3	1 : 1 	n/
F5	2 / 2	1 : 1 	14 day
Fcg Solutions	3 / 2	2 : 1 	n/
Google	6 / 2	3 : 1 	n/
Innova Solutions USA	2 / 2	1 : 1 	n/
Aston Carter	3 / 2	2 : 1 	13 day
Social Solutions	8 / 2	4 : 1 	19 day
Pacific Northwest National Laboratory	2 / 2	1 : 1 	16 day
AT&T	5 / 2	3 : 1 	n/
Another Source	2 / 2	1 : 1 	6 day
Deloitte	2 / 2	1 : 1 	4 day
Seattle Recruiters, LTD.	2 / 2	1 : 1 	13 day
Randstad	2 / 2	1 : 1 	3 day
Disney	11 / 2	6 : 1 	3 day
Services en nuage Genesys	1 / 1	1 : 1 	6 day
Truveta	1 / 1	1 : 1 	n/
Dobbs Truck Group	2 / 1	2 : 1 	n/
Coupang	2 / 1	2 : 1 	n/
Lyft	2 / 1	2 : 1 	n/
Seyfarth Shaw LLP	1 / 1	1 : 1 	n/

Clark College created the Cybersecurity Technician Career Launch program in Southwest WA to address the workforce shortage in Cybersecurity jobs and to meet the expected 12.8% growth in the next 10 years (2019-2029) for this occupation. Spill-over demand from Portland metro area.

CFA developed Cybersecurity Support Technician Career Launch in Renton School District in King County and Yakima Valley Technical Skills Center in Yakima County.

For each region below, which workforce education & training programs are effectively meeting employer needs, or could effectively meet their needs with adjustment or expanded capacity?

	Career Explore	Career Prep	Career Launch Apprenticeship across WA state (Apprenti)	Post-Secondary Link to Cybersecurity certificates and degrees across the state (select Cybersecurity from Select Category)
Capital				
East				
King & Pierce			Skillspire Cybersecurity Pre- apprenticeship (in development)	Certificate programs (Edmonds, Highline)
Mid-Columbia			Cybersecurity Career Launch (Pasco School District/Columbia Basin)	AAS/BAS Cybersecurity (Columbia Basin) Per Scholas Skillspire Vets2Tech Year Up
North Central				
Northwest				Multiple Cybersecurity certificate programs (Edmonds)
South Central				
Southwest			BAS Cybersecurity (Clark)	BAS Cybersecurity (Clark)
West Sound				

Between now and June of 2025, where is there regional momentum to support pathway development in this occupation?

1. High priority for **King and Pierce** County Regional network:
 - a. Growing enrolment in Cybersecurity post-secondary programs
2. Cross-sector engagement with **finance and banking employers** via Finance SL
3. High priority for **Southwest** region
 - a. Consider adding the CFA Cybersecurity track on top of the IT Support pathway in HS.
 - b. Growing demand from Vancouver/Portland metro region
4. Opportunity to improve equitable access including access to rural school districts via virtual instruction.

Occupation: Data Analyst/Data Scientist

Sub-sector:

Average wage: [\\$132,620](#)

Source: ONET

Which skills/competencies do employers use as a benchmark to hire someone in this occupation?

- Problem-solving skills
- Knowledge of querying languages such as SQL
- Clean and prepare data
- Explore and analyze data
- Apply statistical knowledge
- Create data visualization, dashboards and reports
- Communication skills

Which credentials do employers cite as a valuable benchmark to hire someone in this occupation?

- Bachelor's degree in math, statistics or computer science or related field
- Master's or Doctoral degrees preferred by some employers
- Certifications include Google Data Analytics, and Microsoft Certified Power BI

Please describe possible career progression opportunities for this occupation:

Data Analyst->Mid-level Data Analyst->Senior level Data Analyst->Data Manager or Data Scientist

Please share the data, employer feedback, and/or Regional Network feedback that helped you identify this as a high-priority occupation:

This occupation is among the fastest growing of all tech occupations in WA state. Projected growth rate for this occupation in WA state is [36% between 2020-2030](#). Demand for data analysts is growing as companies are increasingly using data to make business decisions.

Demand for Data/Data Mining Analyst/Data Scientist across WA state (BHEF):

Source: Lightcast

For each region below, which workforce education & training programs are effectively meeting employer needs, or could effectively meet their needs with adjustment or expanded capacity?

	Career Explore	Career Prep	Career Launch	Post-Secondary/Training Program Link to Data Analytics certificates and degrees across the state (select Data Analytics from Select Category)
Capitol			BSC Data Analytics Career Launch (WSU Pullman)	
East			BSC Data Analytics Career Launch (WSU Pullman)	
King & Pierce			BSC Data Analytics Career Launch (WSU Pullman)	Skillspire Year Up
Mid-Columbia			BSC Data Analytics Career Launch (WSU Pullman)	
North Central	WSU Data Science Playshops - with Native, migrant workers (20 workshops with >400 children over 2 years as of 2024)		BSC Data Analytics Career Launch (WSU Pullman)	
Northwest		Data Science HS pathway	BSC Data Analytics Career	

		articulated to Skagit Valley College's Data Management and Analytics AA degree	Launch (WSU Everett)	
South Central			BSC Data Analytics Career Launch (WSU Pullman)	
Southwest			BSC Data Analytics Career Launch (WSU Pullman)	
West Sound			BSC Data Analytics Career Launch (WSU Pullman)	

Between now and June of 2025, where is there regional momentum to support pathway development in this occupation?

For each region listed, please describe:

1. **Key momentum factors** (e.g., interested employers, high-priority for Regional Network, opportunity to improve equitable access, opportunity to scale existing programs, portions of CCW pathway already built)
2. **High-potential opportunities** to support pathway development
3. *Is supporting those high-potential opportunities a **shared priority** across SL and RN?*

- **East Region**

- The Data Analytics program at WSU is doing well and has 288 enrolled students across the 4 sites. They have 75 alums who graduated, and students are getting jobs in the data field. They have an advisory board of 20 employers who give them feedback on curriculum, etc. They would like to offer some Data Analytics courses/certificates/AA at the Everett, Vancouver campuses and Clark College for transfer students as it has been difficult for them to finish in 2+2 years. Need support from Sector Intermediary/CCW.
- The Data Analytics Career Explore program is also growing across the state. They have offered it to tribes and migrant worker populations. There is interest to expand it further but need funding.

- **Northwest Region**

- They have developed a HS Explorations in Data Science pathway at Sehome High school using the YouCubed curriculum. The pathway is aligned to Skagit Valley college' Data Management and Analytics AAS.

Please describe the top barriers employers have identified to hiring for the above occupations:

The barriers are similar across groups of employers such as non-tech employers, public sector, startups, etc. but the approach needs to be customized.

Candidates:

- Lack of soft skills such as problem-solving, collaboration, teamwork, time management, intellectual curiosity and professional skills in candidates
- Don't have enough work experience (many entry level roles require 3 years of work experience) or real-world project experience
- Lack of clear understanding of technical fundamentals
- Lack of Industry credentials: For example, Department of Social and Health Services, DSHS, requires CompTIA A+ for entry-level Customer User Support roles

Employers:

- Limited Access to Work-Based Learning – many employers, especially **startups** and **public sector organizations**, lack structured internship and apprenticeship programs. Many would like to hire interns but don't have funding or operational support to do so
- Talent Competition with Tech Companies – **Non-tech** and **public sector** struggle to attract IT talent as major tech firms offer higher salaries and greater appeal.
- Adapting to Emerging Technologies – Rapid advancements, like **Generative AI**, are reshaping workforce needs at an unprecedented pace changing job descriptions.
- **Staffing companies** have challenges in finding tech talent, as roles are contract based; some candidates would prefer full-time roles. There is demand for very specific roles based on client needs that need to be filled fast.

Please describe the type of programs or approaches employers have found helpful in hiring for the above occupations:

- Hire interns to give students work-based learning experience to get them ready for full-time employment. Internships are a valuable experience for both employers and students, however employers may find it difficult to manage their own internships programs (resource constraints, hiring, supervision, onboarding processes, etc.). For example, Quincy school district hired interns from the Data Center Technician Career Launch program. We launched a program in partnership with WTIA in spring 2025 to help startups find tech talent, via a series of focus groups.
- Provide hands-on real world project experiences built into pathway program. For example:
 - Programs provided by [CodeDay Labs](#) and [Riipen](#). CodeDay Labs provides students with virtual internships where they match students with industry mentors to work on a real-world open-source project. Riipen is a work-based learning platform helping educators, organizations, and learners collaborate on real industry projects to bridge the gap between higher education and employment.
 - CFA industry partner, Bank of America, has created a real-world project for the Software Development PAP students where they can practice the skills they have learned working in small teams during the program.

- Through [Pisces](#) program: Students analyze streaming data for small communities or municipalities who may otherwise not be able to obtain cybersecurity to the extent needed. Through PISCES, a reliable high-quality pipeline is being developed to address the shortage of cyber professionals ready for the workforce.
- Joining the WA Tech Workforce Coalition to get access to pre-screened tech talent
- Provide feedback on competencies for Career Launch programs
- Offer speakers, worksite tours and job shadows to inspire students
- Mentoring for interns via programs such as Mentors in Tech
- Employee Referral Programs: Encouraging current employees to refer qualified candidates for open positions
- Microsoft Data Center Academy – scholarships and more [Datacenter Academy | Microsoft Careers](#)

Please describe the types of employers in your sector who are most eager to participate in career connected learning to meet their workforce needs. Why are these types of employers interested in participating in career connected learning, and what type of career connected learning programs are most valuable to them?

We have learned that employer engagement must be differentiated by employer segment and supported by a mix of strategic leadership and turnkey, tactical hiring solutions. There is a strong preference voiced by Coalition employers to convene in sub-groups with other employers from their sector – to learn how they are tackling these challenges.

The following types of employers are most eager to participate in career connected learning programs:

- **Tech employers** such as Microsoft, Amazon, T-Mobile, etc.
These employers are interested in CCL programs to reach students furthest from opportunity and grow diverse talent. For example, Microsoft created the Discovery Internship program for high school seniors, recruiting students from the Software Development Pre-Apprenticeship and Renton School District Cybersecurity CL programs. This program is now in its fourth year and is a great example of a successful partnership. Once hired, these students have an opportunity to apply and be selected for college internships leading to full time employment.
- **Non-tech employers** in sectors other than tech, such as finance, healthcare, maritime, life science, etc.
These employers are interested in participating in CCL programs as they have a challenge finding tech talent. The salaries offered by these employers are non-competitive with tech industry standards plus there is generally less awareness of tech roles in non-tech companies. Tech talent often gravitates toward tech companies known for innovation, exciting projects, or cutting-edge technologies. Non-tech firms may be seen as less attractive or lacking tech career growth. For non-tech employers, CCL programs such as Career Launch, that offer them access to both entry-level full-time talent as well as interns are attractive.
- **Startups** are interested in hiring interns for various tech roles. Interns are more affordable than full-time employees, which is critical for startups who may have limited funding to pay wages. Larger companies can afford to pay interns and provide commissions, making it harder for startups to compete for top talent. Interns are seen as

valuable assets for startups, with many companies using them as a pipeline for full-time hires. Interns are also great for helping with time consuming tasks. For startups, they are interested in Career Launch programs that provide internships. Programs in partnership with WTIA and AI House startup cohorts to help them find intern talent are a successful model.

- **Public Sector employers:** Government salaries usually can't match what private companies offer, making it hard to attract tech talent. Public sector also often has bureaucratic hiring systems that take a long time to place hires. Many public sector agencies run outdated systems making them unattractive to job seekers who want to work on innovative systems and technologies. For public sector employers, many are interested in creating internship programs that can be connected with Career Launch, and also for full-time entry-level hiring. For example, the Federal Way School District IT department is creating OJT training for youth apprentices from the Federal Way School District, launching in fall 2025.
- **Staffing companies:** Challenge in finding tech talent as roles are contract based; some candidates would prefer full-time roles. Very specific roles based on client needs that need to be filled fast. Staffing companies are interested in connecting with Career Launch programs that can be a pathway to contract hiring. For example, Brooksource is partnering with the Data Center Career Launch program to hire candidates for contract roles for data center clients.
- **Data Center employers:** Data centers are thriving in the North Central region of WA state as well as across the border in Oregon close to the Southwest region, led by employers such as Microsoft, Sabey, CyrusOne, and others. These data centers often start with contract workers and convert them to full-time. We are working with these regions to produce viable candidates powered by the adaptive AI skills that these data center employers require.

What is needed to increase participation of BIPOC students in your sector's high priority occupations? To increase participation of students from rural areas? Which programs are doing this well?

As mentioned earlier, there is a lack of diversity in the tech sector and in tech roles in other sectors. Coupled with the recent changes at the federal level, there is an even greater need for local, regional and state entities to work together to strengthen access to opportunities. The following are some initiatives to increase participation of BIPOC students:

Access for students in rural areas: Students in rural areas are being left behind from access to technology pathways as often the schools cannot find teachers to run the program or do not have enough resources to offer the pathways. For rural areas, we need to deliver programs virtually to reach students. This addresses the teacher shortage issue as well. In many rural schools, the class sizes are very small. We should consider offering virtual classes for multiple schools at the same time. The Southwest region is the first of its kind in our state to offer a pathway program virtually. They started offering tech pathway programs virtually in the fall of 2023. In fall of 2024 CFA is partnering with the Southwest region to offer the Software Development Pre-Apprenticeship program virtually via the CTE Rural Cooperative to 6-7 schools in the White Salmon school district in Klickitat and Skamania counties in fall 2024. This program had some challenges that we need to address.

- 1) Students are most successful when they are not isolated and the school has onsite support for the students, though Southwest region has offered to provide support. Rural districts are small and there are a handful of students signed up for virtual pathways. The Southwest region decided to alternate between the IT Support and the Software Development pathways each year so they can have a larger pool of students in the pathway.
- 2) When students take a class outside of their school district, the school district loses the FTE funding for that student, so it is not attractive to them to encourage students to take virtual pathways outside of their school district. This is an issue that needs to be addressed with OSPI for this model to be successful.
- 3) It is very important to outreach to families – they are instrumental in getting students to sign up and be successful. This needs to be done in concert with the school districts.

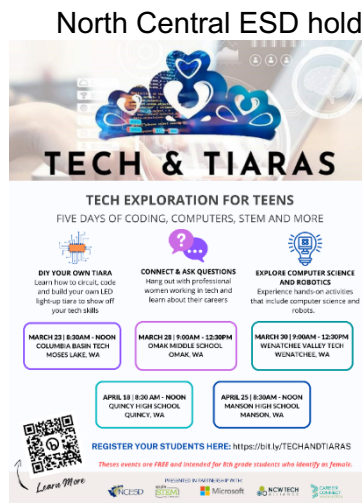
Youth Apprenticeship: Apprenticeships have been proven to be a successful model to address the lack of diversity. Registered apprenticeships offer opportunities for individuals without college degrees to learn new skills while getting paid, as well as cultivate a professional network and gain access to living-wage jobs. Encourage program builders to develop youth apprenticeships in IT pathways in partnership with K-16.

Partnering with CBOs: Program builders need to partner with CBOs that serve BIPOC students to bring these students into Career Launch and training programs to give them the training and supports to place them into good paying IT jobs.

Representation Matters: Program builders need to provide access to BIPOC speakers and mentors from the tech industry to students. It is important that students see people who look like them in these roles. This builds confidence, inspires students, and allows them to start seeing themselves in these types of positions.

Career Readiness workshops and job fairs: Program builders need to offer workshops ranging from exploring careers in tech, to resume and interview prep, Linked In, networking, job fairs, emerging technologies such as AI and more to reach BIPOC students.

There are several examples of programs that are doing a good job of increasing participation of BIPOC students:



North Central ESD holds a bi-annual Tech and Tiaras event for middle school girls to spark their interest in technology careers. The event includes building an LED light-up tiara, talking with professional women about their careers in tech, and exploring hands-on activities in computer science and robotics. CFA attended the event in Quincy in 2023 and participated in a Hi-Tech bingo game with the young women during one of the sessions.

As part of the Data Center Technician CL program in Quincy SD, they are partnered with a local employer, Sabey Data Centers, to take the students for regular tours of the data centers as well as have employer speakers come and talk to students about their careers.

King-Pierce Regional Network provides Career Tours and Career Shadows for students furthest from opportunity. Career Tours include a worksite visit to a company to spark student interest in a broad range of careers available within a company. On a Career Shadow, students spend a structured day with an employee who holds a position that a student has expressed interest in learning more about. King-Pierce Regional Network has developed relationships with approximately ten technology companies who support this work, including Microsoft, Smartsheet, and Amazon. King-Pierce Regional Network and CFA are collaborating to link these experiences to grow participation in internships, postsecondary attainment, and employment for careers in IT.

MinT's program provides students from 9 partner community and technical colleges access to structured yearlong mentorship with industry mentors, industry mentor-led Open Source capstone projects and recruiting to connect employers to students.

WSU's Data Analytics Career Explore play shops for elementary school children and their families have been very successful and expanding across the state. They have built partnerships to offer these to tribes including Kalispel and Yakima Nation, as well as to migrant workers in the Brewster region. The workshops are 3-4 hours long and are offered by undergraduate and graduate students from WSU. They invite kids and families to do activities around data to demystify data analytics and inspire students.

Through WJI work, CFA is partnered with Seattle Jobs Initiative (SJI). SJI will recruit BIPOC serving CBOs and hold 2 cohorts of learning communities with 6-8 CBOs each where they will share career pathways in tech, opportunities in technology, connect CBOs to organizations providing skills training, apprenticeship opportunities, wrap-around supports and funding for post-secondary education.

CFA's Software Development Career Prep program brings in BIPOC and other industry volunteers once a week into the virtual classroom to provide career awareness talks and workshops.

CFA has offered Career Readiness workshops in partnership with Bellevue College, AWS, WiCyS, JP Morgan and others ranging from Finding your career in tech, resume and mock interviews, hackathons, job fairs, LinkedIn, networking and more. From October 2023-April 2024, over 350 students from CTCs and high schools across WA state attended 27

workshops. In spring 2025, CFA partnered with Bellevue College and CoE ICT to provide a series of AI skills workshops delivered by industry leaders, offered virtually to all students and job seekers across WA state, culminating in an in-person startup hiring fest at the AI House. It is imperative to continue to provide career readiness opportunities to all students.

What overarching strategies do you recommend to support pathway development for the highest-priority occupations in your sector?

Optimize Intermediary role as powerful conduit at the intersection of Industry and Education

Facilitate collaboration between industry and education, training partners, and workforce to identify needs, create and enhance active feedback loops to inform curriculum, leading to more sustainable processes and the development of specialized training programs to more readily meet the rapidly changing needs of the tech sector. By focusing on industry coalitions and existing consortia, we can maximize existing partnerships to enhance and build more readily upon new relationships, thereby minimizing time and maximizing resources. Continue to strengthen and build partnerships with industry associations such as WTIA, Tech Alliance, WA Roundtable, AWS Tech Alliance, cities, chambers, and other economic development organizations to bring employers to the table to provide internships and jobs to students, and convene roundtables to foster tech workforce collaborations.

One way that more effective industry-education collaboration can be achieved is via the development of an Industry Council, which will focus on emerging hiring demand, new technologies, and adapting technology education and training programs to meet emerging needs. This is something CFA created as part of the WJI Washington Tech Workforce Coalition, in partnership with Washington Technology Industry Association (WTIA) and AWS Skills to Jobs Tech Alliance.

Deepen collaboration with other Sector Leaders in sectors with high demand for tech roles based on labor market data, such as Finance, Healthcare, Aerospace, Manufacturing, CleanTech and Life Science. Our goal is to connect to employers hiring for IT jobs in these sectors and to build awareness of IT careers in these sectors for students.

Partner with Regional Networks

Staying connected with Regional Networks, conducting quarterly check-ins. Working with them to understand employer demand for IT jobs in their region and to make sure education is meeting the employer demand, as well as supporting them in bringing in new employers into Career Launch programs. Partner with regions to design and develop Education-Business roundtables to bring together employers and educators to identify local employers' tech hiring needs, discuss trends and needs in employment, share examples of successful collaborations between business and industry, and spotlight resources and opportunities for educators to develop career pathways and support students' on these pathways.

Strengthen Partnerships Along the Work-Based Learning Continuum

Employers are looking for experience and soft skills in their new hires, WBL provides real-world experience to students via capstone projects, real-world projects, internships, and

apprenticeships. Partner with industry organizations to bring more employers to the table to offer work-based learning opportunities to students, such as the CFA-WTIA program to help startups find intern talent.

Many employers would take on interns, but they cannot afford to pay them and/or for the cost of managing the program. Create a program to provide subsidies/funding for employers to pay for interns as well as for the cost of running an internship program.

Drive adaptation and education about the significant impact AI is having on jobs and skill sets

In response to the impact of AI rapidly changing the job landscape and required job skills at a rate not seen previously, we will be at the forefront of driving adaptation and education. Driven by findings of the [Transformational Opportunity of AI on ICT Jobs Report](#) (Cisco, 2024), and its comprehensive analysis of changing job roles and newly identified skills related to AI, within the tech sector, we will advocate for adaptation and address the operational void to help fill the resulting workforce gaps. Understanding the unprecedented impact of in-demand AI skills on tech pathways, and how to translate those skills into the pathway programs is a major part of our strategy moving forward. We will continue to be at the forefront of adaptation and encourage partners to utilize trainings from tech leaders to supplement degree programs to build community and foster a spirit of collaboration to better meet the needs of a rapidly changing workforce

Identify Highest-Priority Opportunities to Foster and Improve Access to Programs

Develop strategies in partnership with regions and CBOs to provide access to IT pathways, professional skills and mentoring, for BIPOC and rural students. Share models of successful programs across the state, such as the North Central Region's Tech and Tiaras program. Provide opportunities for students from rural parts of the state to visit companies hiring for tech jobs.

Encourage apprenticeship programs - these have been proven to be a successful model to address the lack of diversity. Apprenticeships combine paid on-the-job training with classroom instruction to prepare workers for highly-skilled careers. Workers benefit from apprenticeships by receiving a skills-based education that prepares them for good-paying jobs. Apprenticeship programs help employers recruit, build, and retain a highly-skilled workforce.

Identify Career Explore opportunities, implement and scale best practices. There are two levels of career explore: a) initial exposure to engage students in Computer Science in elementary/middle school, and b) for students already in a tech pathway exposing them to tech careers in other sectors and exposing them to the broader ecosystem of tech adjacent careers and the interconnectedness of these roles.

Implement comprehensive career explore and prep programs within the K-12 education system to provide students with early exposure to opportunities in IT. Implement curriculum activities within the classroom, organizing site visits and tours to provide students with interactive and hands-on experiences, facilitating internships, and offering ongoing mentorship opportunities with industry professionals.