



# EMPLOYER INSIGHTS BRIEF

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## TABLE OF CONTENTS

### 02

INTRODUCTION

04

METHODOLOGY

### 05

#### LABOR MARKET DATA

INDUSTRY LANDSCAPE HIGH-GROWTH OCCUPATIONS DEGREES, CERTIFICATIONS, AND SKILLS

### 10

#### HR INSIGHTS

HIRING CHALLENGES IN-DEMAND JOBS IN-DEMAND SKILLS RECRUITMENT UPSKILLING AND EMPLOYEE RETENTION

### 13

#### CONCLUSION

14

APPENDIX

#### 15

ENDNOTES





## INTRODUCTION

We are at a unique moment in the labor market. Between skills gaps, a rapid shift to hybrid work, and changing preferences for workers and employers alike, the workforce of today looks vastly different than the workforce of ten years ago. Amidst these changes, talent development, attraction, and retention collectively remain a number one priority for employers. The COVID-19 pandemic exacerbated pre-existing economic inequities and also spurred new trends, such as the "Great Resignation," which highlighted how workers were rethinking their professional goals and priorities. Nationwide, we see employers responding to such trends by innovating new ways of sourcing and retaining employees.

The Greater Washington Partnership is a first-of-its-kind civic alliance of CEOs in the Capital Region, drawing from the leading public, private, and nonprofit organizations committed to making the region – from Baltimore to Richmond – one of the world's best places to live, work, and build a business. With its cross-sector, super-regional network, the Partnership prioritizes catalyzing solutions to the issues holding our region back. We do this by delivering quantitative and qualitative data about employer needs to academic, government, and community partners to support a stronger talent ecosystem. The Partnership is focused on creating the most diverse digital tech ecosystem in the country and playing a catalytic role in developing our region's talent pipeline.

The Greater Washington Partnership's goal with this Employer Insights Brief is to provide an overview of the latest Capital Region hiring trends and talent practices, particularly across the digital tech employment landscape. Because research currently projects that employers risk 60,000 tech and tech adjacent jobs going unfilled annually in the Capital Region through 2025<sup>i</sup>, we focus our findings on tech-related occupations that span an array of fields ranging from Human Resources and Logistics to Engineering and more. To flesh out our understanding of hiring trends, we draw on job postings data, regional labor market information, and direct input from Human Resources (HR) leaders in our partner network. With these findings, we hope to provide education leaders, community leaders, and the public with information to create and access pathways to family-sustaining jobs. This brief expands on the following key findings about talent development, attraction, and retention in the Capital Region:



The Capital Region has a uniquely high proportion of roles employed and contracted by the government—about 44% more than the national average. Because federal contracts stipulate education and experience requirements, employers hiring to fill these contracts are limited in how they write job descriptions and how they recruit talent.



Occupations in software development, web development, and information technology continue to be the most in-demand technology occupations in the region. HR leaders also highlighted cloud architecture as a high demand field for recruitment.



84% of digital tech occupations in the Capital Region require a bachelor's degree, although HR leaders indicated a desire to shift towards skills-based hiring, targeting high demand skills like software proficiency.



Employers are broadening their talent pools through new partnerships with academic institutions and targeted outreach to additional candidate sources. They are also ramping up retention efforts by upskilling current employees and creating clear trajectories for career advancement within their organizations.



## METHODOLOGY

To support the Greater Washington Partnership's skills and talent initiatives, the Collaborative of Leaders in Academia and Business (CoLAB) brings together the region's leading businesses and academic institutions to cultivate a talent pipeline for the jobs of today and tomorrow. To achieve this, we partner with 22 universities and five K-12 jurisdictions and their community college partners to advance industryaligned digital tech pathways from education into the workforce. A foundational piece of this work is CoLAB's Employer Signaling System (ESS), a process and online tool that combines labor market information with feedback from employers and educators to establish the knowledge, skills, and abilities (KSAs) and credentials needed for entry level tech roles in the Capital Region.

We focus on digital tech because of the demand for workers with digital skills, and because these jobs are high paying compared with other entry level positions in the region. Based on Massachusetts Institute of Technology's Living Wage Calculator, we define a job as "high paying" if its salary meets or exceeds the living wage required for one adult and one child for a given Metropolitan Statistical Area (MSA) in the Capital Region. We additionally reference "early career" and "entry level" jobs, which we define as jobs requesting zero-to-five years of experience and zero-to-two years of experience, respectively. The Partnership analyzed labor market data through Lightcast and Chmura's JobsEQ to understand the current workforce makeup, educational attainment, and job ads data.

Throughout this analysis, we refer to digital tech (or "tech") and tech adjacent occupations. These lists include the Standard Occupational Classification (SOC) System codes and titles in the Appendix. We consider an occupation to be "high-growth" when the projected growth for a SOC is greater than the average projected growth for all occupations in a given MSA, and the current demand for a SOC is greater than the average current demand for all occupations in the MSA. We calculate the demand for an occupation by the current number of individuals whose job title falls under that SOC.

In addition to labor market data, we aggregated information from regional employers in a series of listening sessions on current talent priorities. These listening sessions took place in Summer 2022, ensuring the information in this publication reflects the latest hiring trends and priorities in the Capital Region. The Partnership asked HR leaders questions about skillsets that are difficult to recruit for, the entry level jobs available at their organizations, and effective approaches to both draw in new talent and grow current employees' skillsets.



## LABOR MARKET DATA

The findings in this section draw on the latest ESS data for the 2021 calendar year. We provide a snapshot of the Capital Region's industry landscape, high-growth occupations in digital tech, the education requirements for these roles, and in-demand skillsets for tech workers.

## INDUSTRY LANDSCAPE

In the Capital Region, the top three industries based on employment are Government; Professional, Scientific, & Technical Services; and Healthcare. Nationally, the top three industries are Government, Healthcare and Social Assistance, and Retail Trade. In the Capital Region, the percentage of the workforce in Government is approximately 44% higher than the national average for metropolitan areas of this size, while the percentage of the workforce in Professional, Scientific & Technical Services is approximately 85% higher<sup>ii</sup>. These top industries, along with the others listed in Figure 1, provide a backdrop for the many career pathways available to workers in the Capital Region.

## HIGH-GROWTH OCCUPATIONS

### Figure 1: Top Five Industries Based on Employment, 2021



Using Standard Occupational Classification (SOC) System codes, we pulled Capital Region occupations with the highest annual projected growth rates. Across the region, all occupations are projected to grow 0.6% annually. This percentage is the same for tech adjacent occupations, while digital tech occupations are projected to grow about 0.5% annually<sup>iii</sup>. Figure 2 shows that Information Security Analysts, Software Developers & Software Quality Assurance Analyst & Testers, and Web Developers & Digital Interface Designers have the highest projected annual growth rate across digital tech occupations in the Capital Region, with an average of 1.9% growth across all Metropolitan Statistical Areas (MSAs).





### Figure 2: Top Growing Digital Tech Occupations in the Capital Region, 2021



Salary is certainly a factor that all workers, let alone entry level workers, consider in their job search, particularly in the Washington, DC Metro area where cost of living is high. Entry level salaries also vary across high growth digital tech occupations. Figure 3 highlights the occupations with some of the highest entry level salaries, including Computer and Information Research Scientists, Information Security Analysts, Database Administrators and Architects and Software Developers & Software Quality Assurance Analysts & Testers.

### Figure 3: Average Entry Level Salary for High-Growth Digital Tech Occupations, 2021

High-Growth Occupation	Average Entry Level Salary, 2021		
Capital Region MSAs	Baltimore, MD	Washington, DC	Richmond, VA
Computer and Information Research Scientists	\$93,900	\$87,300	\$78,600
Information Security Analysts	\$81,300	\$84,500	\$68,400
Database Administrators and Architects	\$83,300	\$72,900	\$59,600
Software Developers & Software Quality Assurance Analysts & Testers	\$66,800	\$66,900	\$82,300

Sources: JobsEQ by Chmura, accessed August 20, 2022 and Glasmeier, Amy K. Living Wage Calculator. 2022. Massachusetts Institute of Technology. livingwage.mit.edu









PAGE | 08

## DEGREES, CERTIFICATIONS, AND SKILLS

Capital Region residents have attained higher levels of education than the national average for both bachelor's degrees and graduate degrees. 25% percent of residents in the Capital Region have a bachelor's degree compared to 20% in the United States, while 22.5% of the region's residents have a graduate degree compared to 12.8% in the nation.

Capital Region employers most commonly require at least a four-year degree for digital tech occupations, with 84% of all digital tech job postings listing a bachelor's degree as the minimum education requirement<sup>iv</sup>. This is a higher percentage than the national average, where 77% of digital tech job postings require a bachelor's degree. Minimum education requirements for advance degrees in the Capital Region are aligned with national trends, with roughly 3% of digital tech job postings both nationally and in the Capital Region requiring a graduate degree of some type. An education requirement of PhD or professional degree is statistically low, as shown in Figure 5. Figure 4: Education Attainment in the Capital Region vs. United States, 2021



## Figure 5: Education Requirement Breakdown for Digital Tech Occupations, 2021

Education Requirement	Capital Region	United States
High School Diploma or GED	8%	12%
Associate's Degree	5%	9%
Bachelor's Degree	84%	77%
Master's Degree	3%	3%
PhD or Professional Degree	0%	0%
Source: Lightcast <sup>™</sup> accessed September 29, 2022	<sup>™</sup> accessed September 29, 2022 This captures data associated with any mention of an education level listed within the job posting; it may be preferred, required, or negotiable. Further, postings may be tagged with multiple education levels.	





Figure 6: Top Certifications for Digital Tech Jobs in the Capital Region, 2021

The Employer Signaling System also collects data on the most popular certifications and specialized skillsets in job postings across the Capital Region. Of job postings that request a certification, 43.7% require some type of security clearance, including the Top Secret/Sensitive Compartmented Information (TS/SCI) Clearance. Beyond security clearances, the CompTIA Security+ certification (6.6%) and Certified Information Systems Security Professional (4.9%) are the most in demand certifications for early career jobs in the region.

The most in-demand skills for tech and tech adjacent jobs include computer science, data science (including analysis, modeling, engineering, and machine learning), information systems, and programming languages like Python, SQL, C and C++. These skills are high demand for both entry level occupations and occupations with more advanced professional experience requirements.



## HR INSIGHTS

Each year, the Partnership validates labor market information findings with HR partners through Listening Sessions to understand how employers are experiencing industry trends on the ground. While enterprise needs vary based on the sector and industry that a given employer represents, conversations with HR partners enable us to capture common trends and top talent priorities that shape our understanding of in-demand jobs and skills. Below are the key findings from the Partnership's 2022 HR Listening Sessions:

### HIRING CHALLENGES

Employers continuously adapt to hire and retain talent to meet changing employee preferences and the evolving industry landscape. While the shift to hybrid work is not the single defining factor changing the nature of work, employers do feel its impact. For instance, while many employers can offer hybrid or remote work for some jobs, it is increasingly difficult to recruit workers for jobs dealing with sensitive or classified information, as they require on-site attendance. This trend is not exclusive to the Capital Region; however, the region's share of government and government contractor jobs, coupled with healthcare jobs, enhance the need for employees who can work in-person for roles dealing with confidential information.

The demand for security clearances also presents a unique challenge for the region. In fact, Capital Region employers hire more workers with security clearances than any other region in the country, with approximately 9% of jobs posted in the region requiring a clearance. Moreover, the backlog for approving clearances impacts employers' ability to quickly hire workers into the most in-demand jobs, as it takes over one year on average for an employer to obtain a security clearance<sup>v</sup>. Employers can only begin the security clearance process once an employee has started working, so it is typically easier to recruit someone who has already received clearance from a previous position.

However, employers recognize that they cannot rely on recruiting currently employed and cleared workers to fill open jobs. Employers increasingly demonstrate an openness to being more flexible with job requirements to expand the pool of qualified applicants. However, given the high share of government jobs in the region, it is difficult to update job requirements at a large scale because government contracts often stipulate education and professional experience requirements that the hiring entity must adhere to.





#### HR INSIGHTS

## IN-DEMAND JOBS

Employers cite specialized technology roles as their top hiring priority. The most common in-demand jobs across employers include software engineers, cybersecurity roles, data analysts, cloud architects, systems designers, and information technology. At the same time, employers have also seen high turnover in functional areas like finance and HR, creating a new demand for tech adjacent roles in these fields.

Entry level job demand is consistent with the demand for all jobs in a given company, including for systems engineers, software developers, and data scientists. Several HR leaders focus entry level recruitment on customer-facing technology roles like IT or helpdesk support, which allows employees to further specialize after gaining several years of experience in these roles.







## IN-DEMAND SKILLS

We consistently heard that employers are having difficulty recruiting for all skillsets, and that the pandemic exacerbated challenges companies were already facing. Across organizations, HR leaders emphasize the need for workers who demonstrate learning agility, or the ability to adapt new skills and processes in a way that keeps pace with rapid industry change. When recruiting entry level workers, employers prioritize flexibility, technology literacy, and commitment to developing the additional skills needed to succeed.

In terms of specialized skillsets, employers are seeking software knowledge, coding ability, system design, and full stack software engineers fluent in each stage of the development process. Employers also value knowledge of artificial intelligence and cloud computing using systems like Amazon Web Services and Google Cloud. High demand, entry level skillsets include programming languages such as Java and Python. Beyond technology literacy, recruiters and talent leads emphasize the importance of inclusive leadership traits. Employers seek candidates that are empathetic, culturally sensitive, and collaborative, and see these skillsets as crucial to developing the leaders of tomorrow.

## RECRUITMENT

Employers are undertaking various initiatives to strategically develop, attract, and retain talent. From a recruitment perspective, some employers have partnered with postsecondary institutions to quickly upskill early career workers with non-technical backgrounds into priority technical roles, such as software engineering. HR leaders are also seeking out new partnerships with educational institutions they have not connected with previously, such as local community colleges. In a similar vein, recruiters are aiming to meet students where they are, whether that be expanding their presence at on-campus events or collaborating with educators on capstone projects that serve as pathways into roles at the company. Employers also rely heavily on internship programs as a source of full-time, entry level talent, and they are putting time and resources towards scaling these programs.

Employers are also expanding their talent sources beyond their typical recruitment pools. Some employers have created specific initiatives to recruit military veterans and people who have left the workforce, like parents returning to work after familial leave. For each of these talent pools, organizations try to offer resources, such as mentors and support groups, to assist new workers as they transition into the company.

To encourage more applicants, employers are also rethinking how they write job descriptions. Some companies are shifting to skills-based hiring by revisiting degree requirements and minimum experience prerequisites to ensure they accurately reflect the competencies needed for the job at hand. When appropriate, some employers referenced sourcing talent directly from high schools for roles that no longer have degree requirements; however, this is less common given the high number of jobs requiring a bachelor's degree in the region.

## UPSKILLING AND EMPLOYEE RETENTION

HR leaders also discussed internal mobility initiatives and educating employees about career pathways within the organization. Employers often recruit talent from their customer service roles like IT and helpdesk support into more specialized roles, building on foundational tech skills to help these employees advance. Some companies are launching partnerships with technology companies to help workers build upon their current skills and provide certificates in specific software for their employees. These employers are also exploring how to reskill non-tech employees with the skills necessary for critical technology roles.

With many members of the workforce leaving their current positions for other opportunities, companies are especially focused on employee retention. Employers anticipate that there will be a shift towards balancing talent acquisition with talent retention that lasts beyond the recent "Great Resignation." HR leaders note multiple approaches to being more proactive about keeping employees, such as holding "stay conversations" to ensure employee satisfaction and providing resources for workers to explore other careers within the organization.



## CONCLUSION

The Greater Washington Partnership believes that creating accessible pathways to family sustaining careers will benefit employers, workers, and the overall economy. We believe that the regions with the most inclusive economies will also be the most economically competitive and resilient, and tapping into new talent pools, growth opportunities, and innovation potential are just a few pieces of the puzzle. To support a more inclusive economy, we need to ensure that individuals who grow up here, learn here, and move here, can build fulfilling careers here.

As hiring trends evolve, it is critical to make sure those who consume this information—educators, researchers, and job seekers, among others—have transparency into in-demand industries, occupations, education, and skills. This publication, alongside other Greater Washington Partnership and CoLAB resources like <u>The Capital Region Faces a Huge Tech Talent Shortage</u> and the <u>Employer Signaling System</u> website, is part of a larger effort to provide actionable data around current talent needs in the Capital Region. This is especially relevant in rapidly changing industries and the technology jobs that fuel them.

By sharing employer needs and insights, we hope to illuminate opportunities to create paths to family sustaining careers. Through cross-sector collaboration and partnership we can create an education and workforce ecosystem that supports all residents and positions the Capital Region as the leading economic engine of inclusive growth and shared prosperity.



## APPENDIX

#### **Digital Tech Occupations**

SOC	OCCUPATION
15-1256	Software Developers and Software Quality Assurance Analysts and Testers
15-1299	Computer Occupations, All Other
15-1244	Network and Computer Systems Administrators
15-1212	Information Security Analysts
15-1232	Computer User Support Specialists
15-1245	Database Administrators and Architects
15-1211	Computer Systems Analysts
15-1257	Web Developers and Digital Interface Designers
15-1241	Computer Network Architects
17-2071	Electrical Engineers
15-1251	Computer Programmers
17-2072	Electronics Engineers, Except Computer
17-3023	Electrical and Electronic Engineering Technologists and Technicians
15-1231	Computer Network Support Specialists
17-2061	Computer Hardware Engineers
15-1221	Computer and Information Research Scientists
17-3024	Electro-Mechanical and Mechatronics Technologists and Technicians
17-3012	Electrical and Electronics Drafters

#### Tech Adjacent Occupations

soc	OCCUPATION
17-2011	Aerospace Engineers
17-2021	Agricultural Engineers
17-2031	Bioengineers and Biomedical Engineers
17-2041	Chemical Engineers
17-2051	Civil Engineers
17-2081	Environmental Engineers
17-2121	Marine Engineers and Naval Architects
17-2111	Health and Safety Engineers, Except Mining Safety Engineers and Inspectors
17-2131	Materials Engineers
17-2141	Mechanical Engineers
17-2161	Nuclear Engineers
17-2171	Petroleum Engineers
17-2199	Engineers, All Other
17-3011	Architectural and Civil Drafters
17-3012	Electrical and Electronics Drafters

#### Tech Adjacent Occupations

soc	OCCUPATION
15-2011	Actuaries
15-2021	Mathematicians
15-2041	Statisticians
15-2031	Operations Research Analysts
13-1071	Human Resources Specialists
13-1081	Logisticians
13-1161	Market Research Analysts and Marketing Specialists
13-1080	Logisticians and Project Management Specialists
43-2011	Switchboard Operators, Including Answering Service
17-1011	Architects, Except Landscape and Naval
17-3031	Surveying and Mapping Technicians
17-1012	Landscape Architects
17-2071	Electrical Engineers
17-2072	Electronics Engineers, Except Computer
17-2112	Industrial Engineers
17-2151	Mining and Geological Engineers, Including Mining Safety Engineers
17-1021	Cartographers and Photogrammetrists
17-1022	Surveyors

#### Tech Adjacent Occupations

soc	OCCUPATION
17-3013	Mechanical Drafters
17-3019	Drafters, All Other
17-3021	Aerospace Engineering and Operations Technologists and Technicians
17-3022	Civil Engineering Technologists and Technicians
17-3023	Electrical and Electronic Engineering Technologists and Technicians
17-3024	Electro-Mechanical and Mechatronics Technologists and Technicians
17-3025	Environmental Engineering Technologists and Technicians
17-3026	Industrial Engineering Technologists and Technicians
17-3027	Mechanical Engineering Technologists and Technicians
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products
41-9031	Sales Engineers
43-9111	Statistical Assistants
19-4061	Social Science Research Assistants
25-4031	Library Technicians
19-4099	Life, Physical, and Social Science Technicians, All Other

## ENDNOTES

- i https://greaterwashingtonpartnership.com/wp-content/uploads/2020/07/GWP-RED-TECH-TALENT-200713\_Final.pdf
- ii Source: Greater Washington Partnership Analysis of Lightcast™, accessed September 13, 2022
- <sup>iii</sup>Source: JobsEQ by Chmura
- <sup>iV</sup>Source: Lightcast<sup>™</sup>, accessed September 23, 2022
- <sup>V</sup> https://greaterwashingtonpartnership.com/wp-content/uploads/2020/06/2019.11.GWP\_Security-Clearances\_Clearing-the-Path-to-More-Job-Opportunities.pdf