APPRENTi™

A Modern Solution to the Tech Industry's Hiring & Diversity Needs

Jennifer Carlson, Executive Director
jcarlson@washingtontechnology.org
ApprentiCareers.org

The Solution

APPRENTi

The path, the plan, your career in tech.

- Piloted by Washington Technology Industry Association, in partnership with the Washington State Labor and Industries Department
- **Registered Apprenticeship** program for careers in technology
- Built by industry to fill its workforce gap and increase diversity of tech workforce (emphasis on women, minorities, veterans and disabled)
- Based in Seattle, operating nationally
- 501c3 non-profit organization

APPRENTi

The path, the plan, your career in tech.

How did we get here?

Funded by US Department of Labor and tech sector to develop a uniform apprenticeship program as sole IT Sector Lead

Significant skills gap between accredited education and tech hiring needs

In the U.S., 1:20 job openings is a tech job

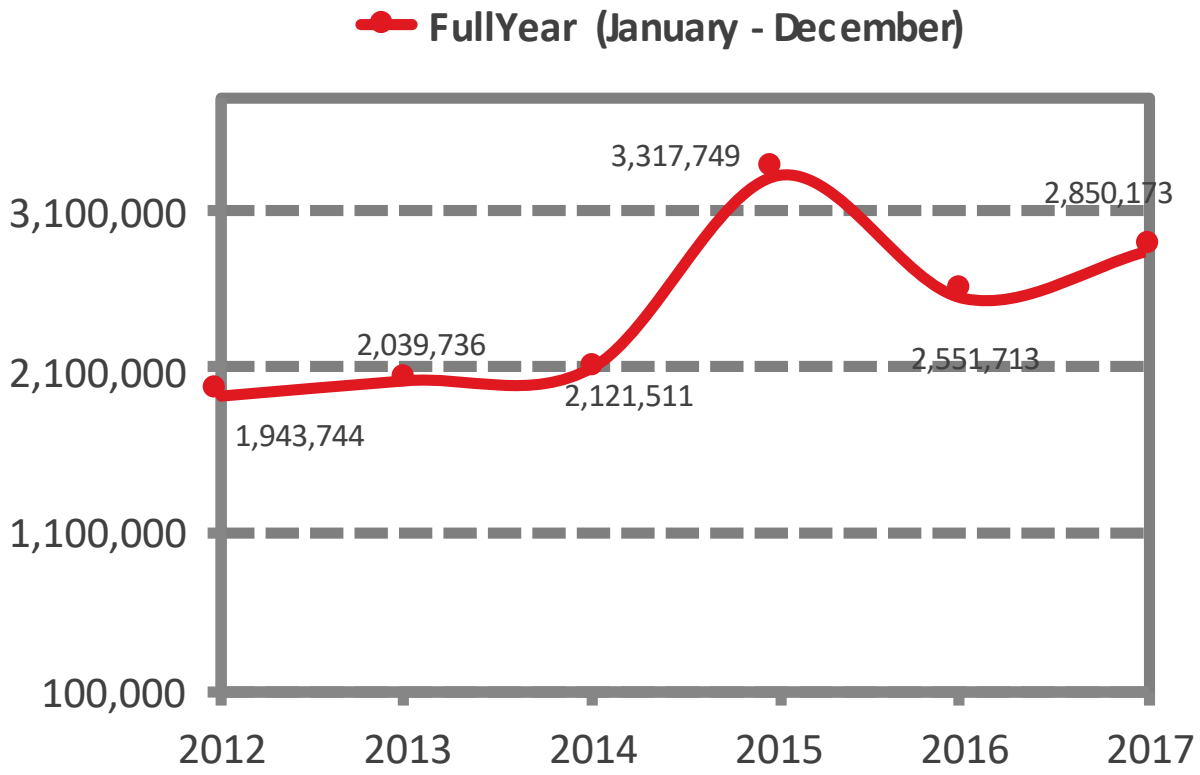
1:7

Focus on the middle skill jobs that can be filled by accelerated or work based training

40/50/10

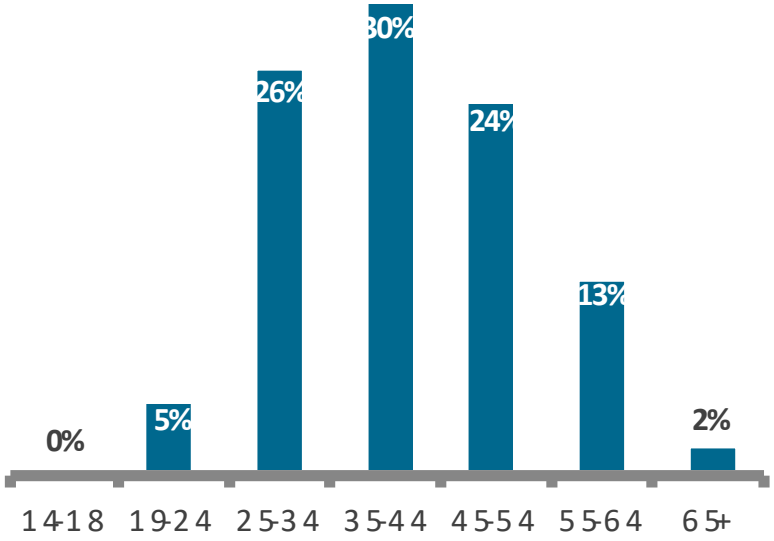
Why do we need Apprenticeship?

Total Number of Core IT Job Posting Unfilled Nationally

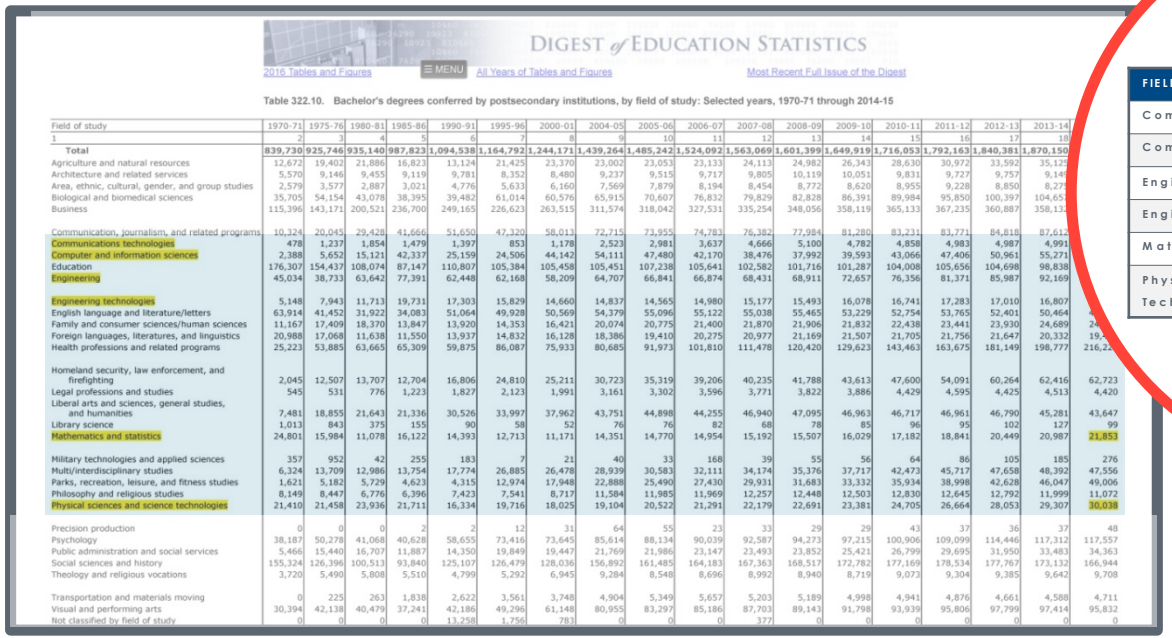


Source: Burning Glass Technologies Labor Insights, January 2017

U.S. IT Workforce Age Demographics



Bachelor's Degrees Conferred Through 2015



DIGEST of EDUCATION STATISTICS

2016 Tables and Figures | ≡ MENU | All Years of Tables and Figures | Most Recent Full Issue of the Digest

Table 322.10. Bachelor's degrees conferred by postsecondary institutions, by field of study: Selected years, 1970-71 through 2014-15

Field of study	1970-71	1975-76	1980-81	1985-86	1990-91	1995-96	2000-01	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Total	839,730	925,746	935,140	987,823	1,094,538	1,164,792	1,244,171	1,439,264	1,485,242	1,524,092	1,563,069	1,601,399	1,649,919	1,716,053	1,792,163	1,840,381	1,870,150
Agriculture and natural resources	12,672	19,402	21,886	16,823	13,124	21,425	23,370	23,002	23,053	23,133	24,113	24,982	26,343	28,630	30,972	33,592	35,125
Architecture and related services	5,570	9,146	9,455	9,119	9,781	8,352	8,480	9,237	9,515	9,717	9,805	10,119	10,051	9,831	9,727	9,757	9,149
Area, ethnic, cultural, gender, and group studies	2,579	3,577	2,887	3,021	4,776	5,633	6,160	7,569	7,879	8,194	8,454	8,772	8,620	8,955	9,228	8,850	8,275
Biological and biomedical sciences	35,705	54,154	43,078	38,395	39,482	61,014	60,576	65,915	70,607	76,832	79,829	82,828	86,391	89,984	95,850	100,397	104,65
Business	115,396	143,171	200,521	236,700	249,165	226,623	263,515	311,574	318,042	327,531	335,254	348,056	358,119	365,133	367,235	360,887	358,13
Communication, journalism, and related programs	10,324	20,045	29,428	41,666	51,650	47,320	58,013	72,715	73,955	74,783	76,382	77,984	81,280	83,231	83,771	84,818	87,61
Communications technologies	478	1,237	1,854	1,479	1,397	853	1,178	2,523	2,981	3,637	4,666	5,100	4,782	4,858	4,983	4,987	4,991
Computer and information sciences	2,388	5,652	15,121	42,337	25,159	24,506	44,142	54,111	47,480	42,170	38,476	37,992	39,593	43,066	47,406	50,961	55,271
Education	176,307	154,437	108,074	87,147	110,807	105,384	105,458	105,451	107,238	105,641	102,582	101,716	101,287	104,008	105,656	104,698	98,838
Engineering	45,034	38,733	63,642	77,391	62,448	62,168	58,209	64,707	66,841	66,874	68,431	68,911	72,657	76,356	81,371	85,987	92,169
Engineering technologies	5,148	7,943	11,713	19,731	17,303	15,829	14,660	14,837	14,565	14,980	15,177	15,493	16,078	16,741	17,283	17,010	16,807
English language and literature/letters	63,914	41,452	31,922	34,083	51,064	49,928	50,569	54,379	55,096	55,122	55,038	55,465	53,229	52,754	53,765	52,401	50,464
Family and consumer sciences/human sciences	11,167	17,409	18,370	13,847	13,920	14,353	16,421	20,074	20,775	21,400	21,870	21,906	21,832	22,438	23,441	23,930	24,689
Foreign languages, literatures, and linguistics	20,988	17,068	11,638	11,550	13,937	14,832	16,128	18,386	19,410	20,275	20,977	21,169	21,507	21,705	21,756	21,647	20,332
Health professions and related programs	25,223	53,885	63,665	65,309	59,875	86,087	75,933	80,685	91,973	101,810	111,478	120,420	129,623	143,463	163,675	181,149	198,777
Homeland security, law enforcement, and firefighting	2,045	12,507	13,707	12,704	16,806	24,810	25,211	30,723	35,319	39,206	40,235	41,788	43,613	47,600	54,091	60,264	62,416
Legal professions and studies	545	531	776	1,223	1,827	2,123	1,991	3,161	3,302	3,596	3,771	3,822	3,886	4,429	4,595	4,425	4,513
Liberal arts and sciences, general studies, and humanities	7,481	18,855	21,643	21,336	30,526	33,997	37,962	43,751	44,898	44,255	46,940	47,095	46,963	46,717	46,961	46,790	45,281
Library science	1,013	843	375	155	90	58	52	76	76	82	68	78	85	96	95	102	127
Mathematics and statistics	24,801	15,984	11,078	16,122	14,393	12,713	11,171	14,351	14,770	14,954	15,192	15,507	16,029	17,182	18,841	20,449	20,987
Military technologies and applied sciences	357	952	42	255	183	7	21	40	33	168	39	55	56	64	86	105	185
Multi/interdisciplinary studies	6,324	13,709	12,986	13,754	17,774	26,885	26,478	28,939	30,583	32,111	34,174	35,376	37,717	42,473	45,717	47,658	48,392
Parks, recreation, leisure, and fitness studies	1,621	5,182	5,729	4,623	4,315	12,974	17,948	22,888	25,490	27,430	29,931	31,683	33,332	35,934	38,998	42,628	46,047
Philosophy and religious studies	8,149	8,447	6,776	6,396	7,423	7,541	8,717	11,584	11,985	11,969	12,257	12,448	12,503	12,830	12,645	12,792	11,999
Physical sciences and science technologies	21,410	21,458	23,936	21,711	16,334	19,716	18,025	19,104	20,522	21,291	22,179	22,691	23,381	24,705	26,664	28,053	29,307
Precision production	0	0	0	2	2	12	31	64	55	23	33	29	29	43	37	36	37
Psychology	38,187	50,278	41,068	40,628	58,655	73,416	73,645	85,614	88,134	90,039	92,587	94,273	97,215	100,906	109,099	114,446	117,312
Public administration and social services	5,466	15,440	16,707	11,887	14,350	19,849	19,447	21,769	21,986	23,147	23,493	23,852	25,421	26,799	29,695	31,950	33,483
Social sciences and history	155,324	126,396	100,513	93,840	125,107	126,479	128,036	156,892	161,485	164,183	167,363	168,517	172,782	177,169	178,534	177,767	173,132
Theology and religious vocations	3,720	5,490	5,808	5,510	4,799	5,292	6,945	9,284	8,548	8,696	8,992	8,940	8,719	9,073	9,304	9,385	9,642
Transportation and materials moving	0	225	263	1,838	2,622	3,561	3,748	4,904	5,349	5,657	5,203	5,189	4,998	4,941	4,876	4,661	4,588
Visual and performing arts	30,394	42,138	40,479	37,241	42,186	49,296	61,148	80,955	83,297	85,186	87,703	89,143	91,798	93,939	95,806	97,799	97,414
Not classified by field of study	0	0	0	0	13,258	1,756	783	0	0	0	377	0	0	0	0	0	0

FIELD OF STUDY	2014-2015
Communications Technologies	5,135
Computer and Information Sciences	59,581
Engineering	97,858
Engineering Technologies	17,238
Mathematics and Statistics	21,853
Physical Sciences and Science Technologies	30,038

Source: National Center for Education Statistics, 2016

A New Pathway to Tech Careers

	Registered Apprenticeship	Community or Technical College	College or University	Accelerated Certification Programs and Code Camps
Time to Complete	14 to 17 Months	2 Years	4 Years	8 to 24 Weeks
Tuition/Training Cost*	Varies by State	$7,000 (Average in-district)	$40,000 (Average in-state)	Free to $26,000
Work Experience/ Paid or Unpaid	1 Year of On-the-job training Paid including benefits	Internship or None Paid or Unpaid	Internship or None Paid or Unpaid	Internship, sometimes incorrectly referred to as apprenticeship Paid or Unpaid

Current Occupations & Sample Certifications

Cloud Support Specialist 1
Network+

Cloud Support Specialist 2
Network+, Linux+ and proprietary expert certs

Network Security Administrator
CCNA/P from Cisco

Web Developer
Through local best-aligned coding academy

Software Developer
Through local best-aligned coding academy

Linux Systems Administrator
LPIC 1, 2, and 3

Windows Systems Administrator
MCSA/E from Microsoft

Data Center Technician
A+, Network+, Server+, Linux+

IT Support Professional
A+, Network+, LPIC1

IT Business Analyst
ITIL, MTA, Linux+, Tableau Associate

Additional occupations are under development.
Apprenti can also file new occupations and build specialized programs.

What is Apprenti's Role?

Simply put:
We are the intermediary, the link between Company, Talent, Training and Governance.

We serve as a trusted resource, consultant, bridge and buffer between the six audiences engaged in creating a healthy talent development system.

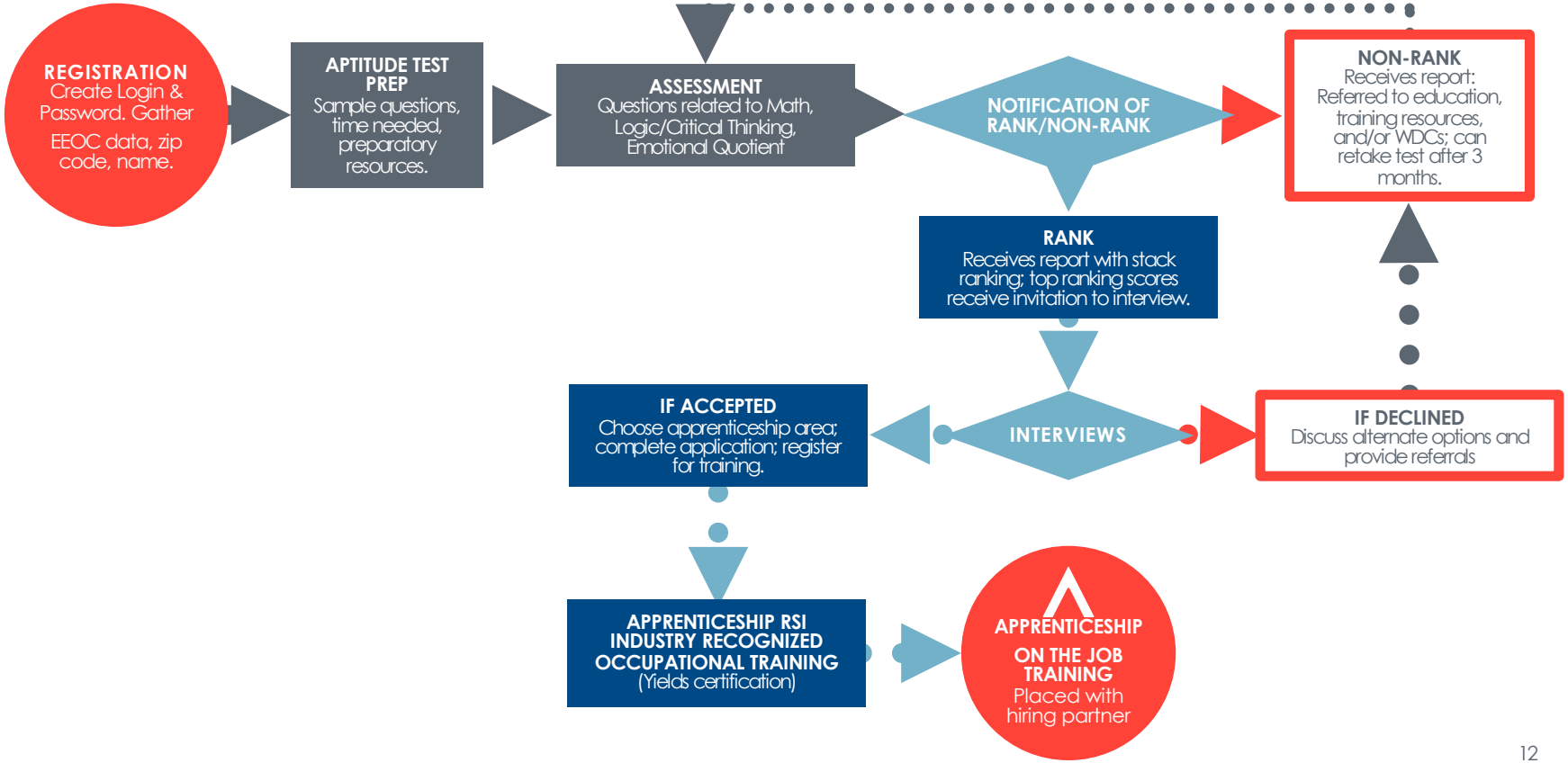
Core Focus:

- Consistency of the Standards
- Talent is defined by competency, not a degree
- Industry Driven Model, tech sector/roles and beyond

Organizations & Roles in Apprenticeship

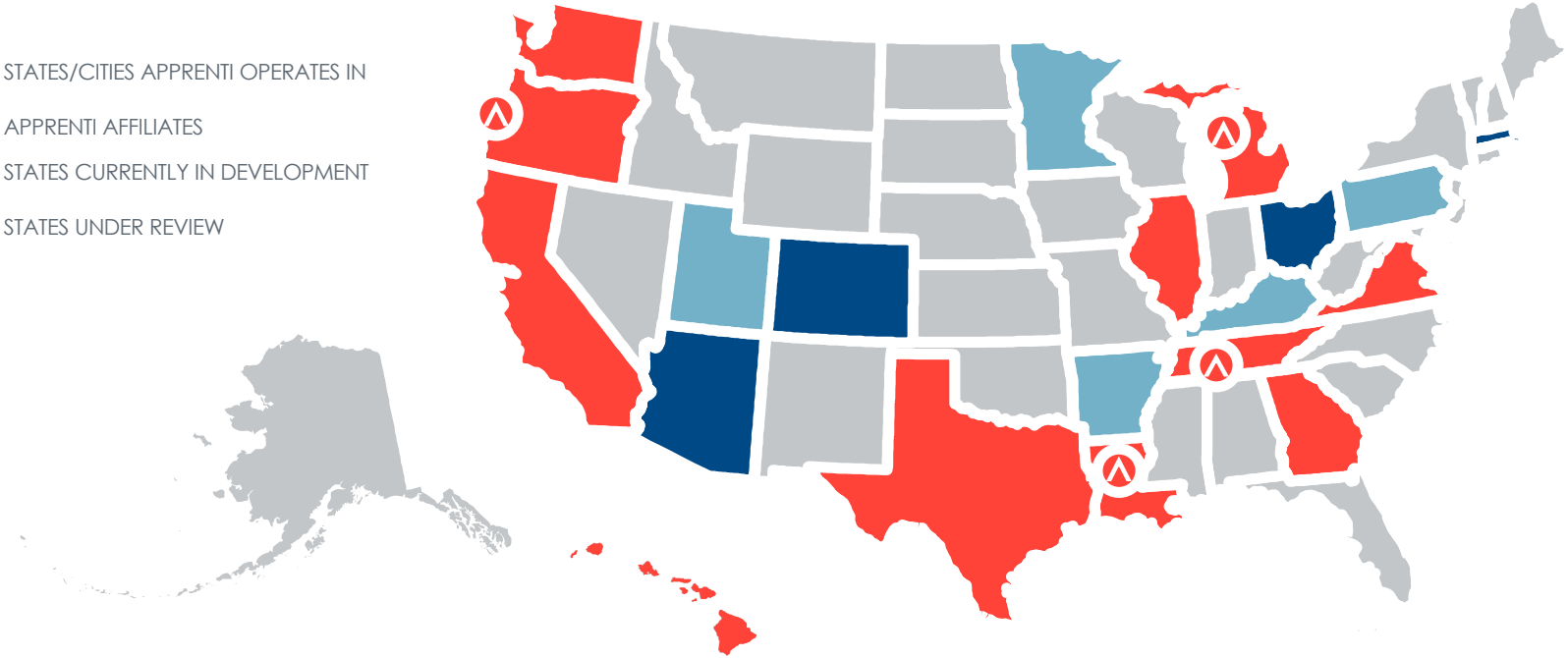
SIX STAKEHOLDERS	SIX ROLES
Chambers, Tech Councils & Trade Associations	Intermediary engaging companies
Hiring companies	OJT Training Agent = Apprenticeship
DOL & State Labor Offices	Governance, process & credential
Community Partners	Targeted NPOs, Community Colleges, Code Camps, WDCs
Funding Partners	Agency or Sponsor removing barriers to entry for target populations
Accelerated Education & Training	Locally driven, but meeting the company standards for minimum qualifications and delivering certification and/or credential

How it Works


REGISTRATION
Create Login & Password. Gather EEOC data, zip code, name.
APTITUDE TEST PREP
Sample questions, time needed, preparatory resources.
ASSESSMENT
Questions related to Math, Logic/Critical Thinking, Emotional Quotient
NOTIFICATION OF RANK/NON-RANK
NON-RANK
Receives report: Referred to education, training resources, and/or WDCs; can retake test after 3 months.
RANK
Receives report with stack ranking; top ranking scores receive invitation to interview.
INTERVIEWS
IF ACCEPTED
Choose apprenticeship area; complete application; register for training.
IF DECLINED
Discuss alternate options and provide referrals
APPRENTICESHIP RSI INDUSTRY RECOGNIZED OCCUPATIONAL TRAINING
(Yields certification)
APPRENTICESHIP
ON THE JOB TRAINING
Placed with hiring partner

Apprenti Operations & Expansion

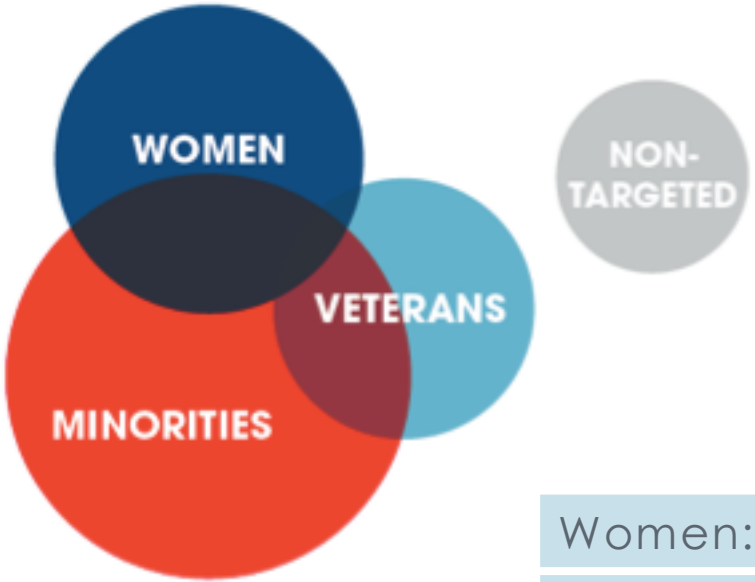
- STATES/CITIES APPRENTI OPERATES IN
- APPRENTI AFFILIATES
- STATES CURRENTLY IN DEVELOPMENT
- STATES UNDER REVIEW



Apprenticeship Demographics

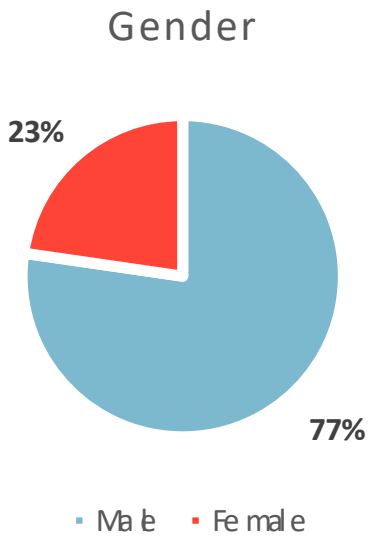
Pilot Applicant Demographics

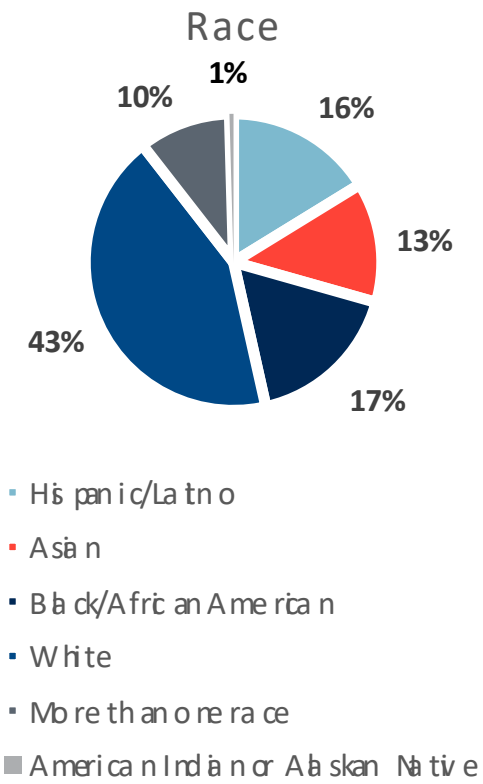
Applicant Pool - 6251



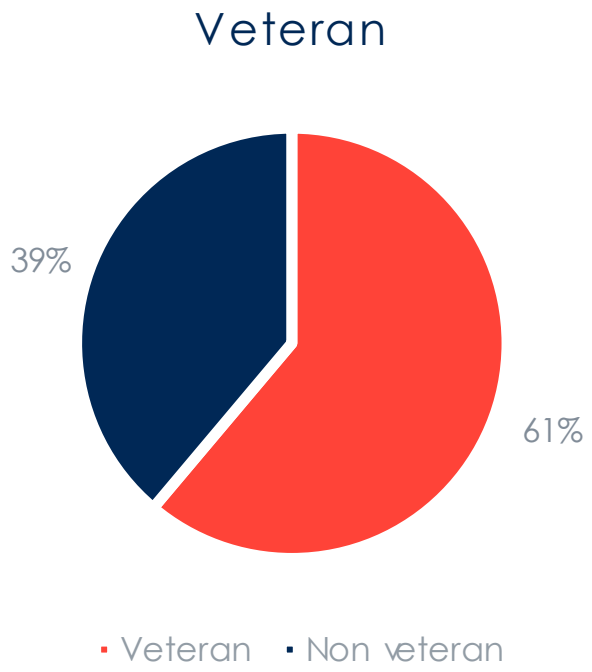
Women:	2020	Minorities:	3454
Veterans:	1717	Non-Targeted:	1231

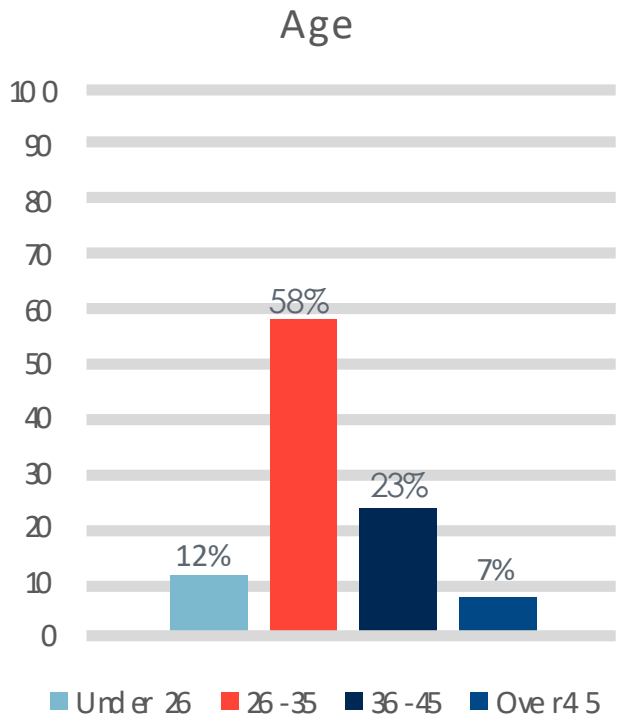
Current Apprentice Demographics



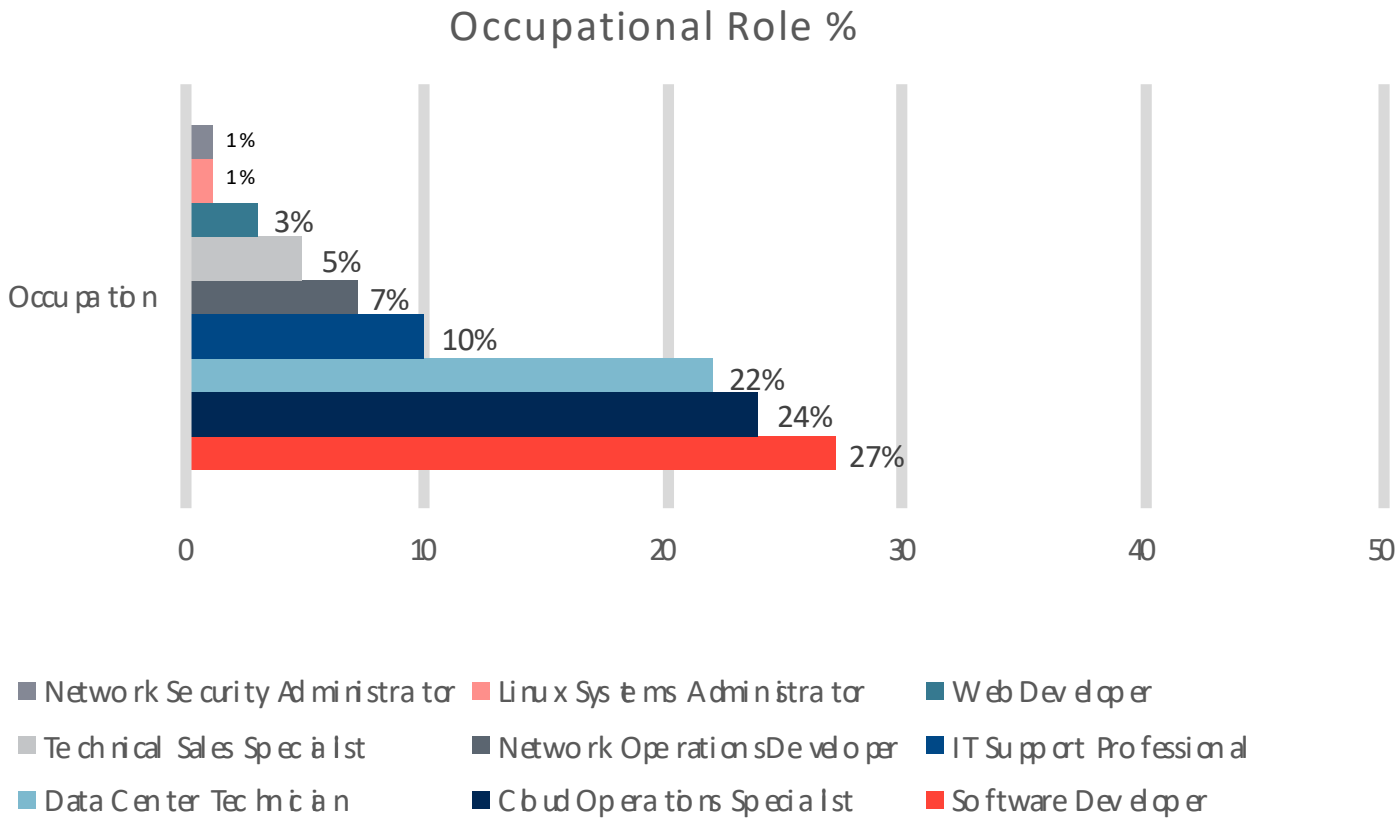


Current Apprentice Demographics





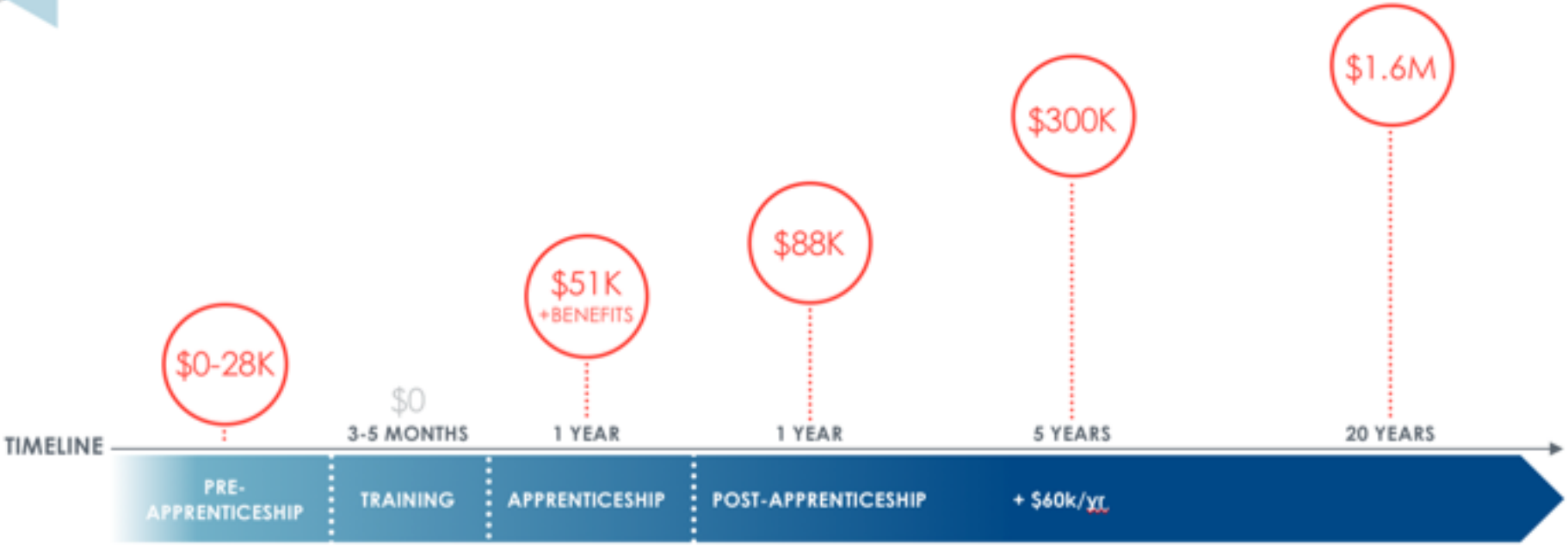
Current Apprentice Demographics



Current Apprentice Salary Change

• Median Salary of Previously Employed:	$30,275
• Unemployed Prior to Apprenti:	33%
• Median Salary of All Prior to Apprenti:	$28,900
• Median Salary in Apprenticeship:	$51,000
• Early Retention Rate:	83%
• Median Retained Salary:	$88,200
• 4-Year College Degrees:	56%
• Youngest Placed:	18
• Eldest Placed:	61

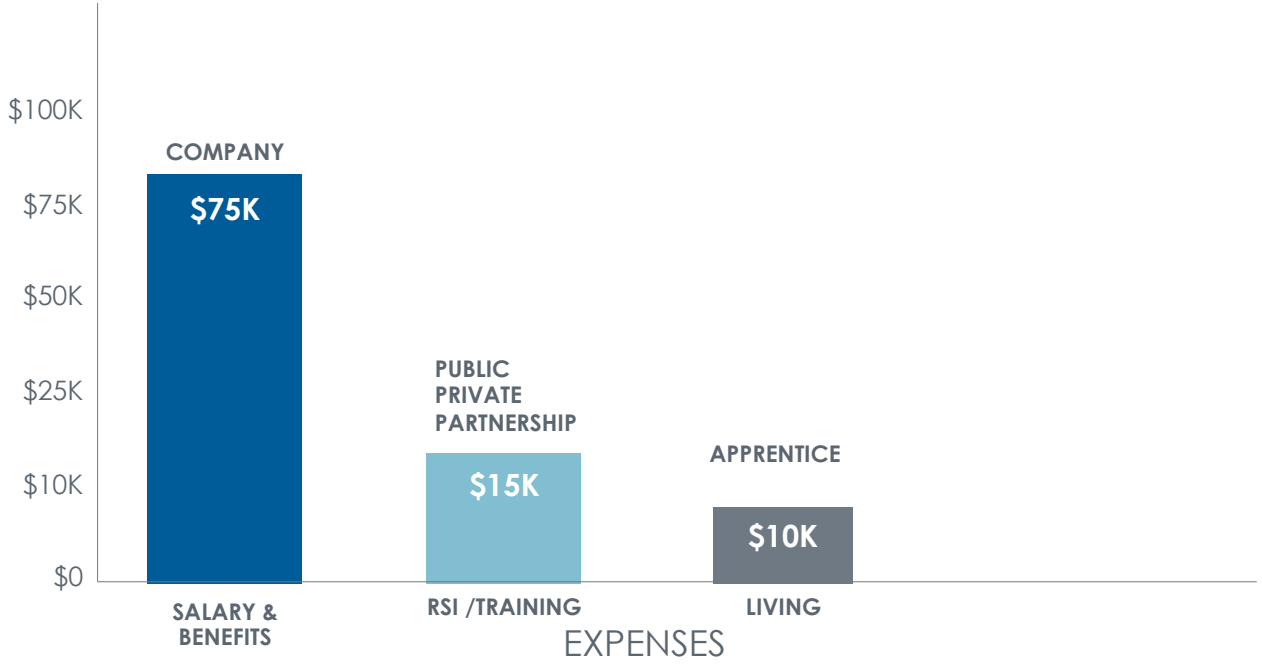
100X Return on RSI



Lifetime Growth of Earnings Potential

Investment Required

1 APPRENTICE = $100,000+

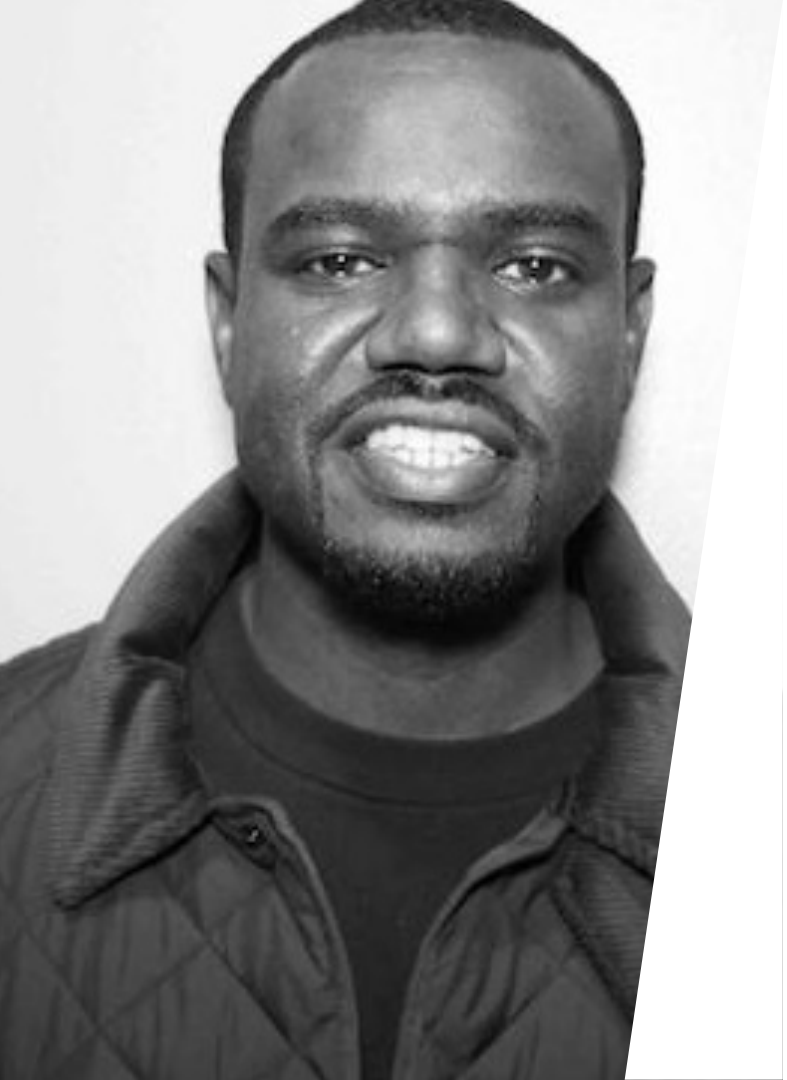


Who becomes a tech apprentice?

SARA

- **PRIOR EDUCATION:** Doctorate of Pharmacy; Associates in Information Systems
- **PRIOR JOB:** Pharmacist
- **TRAINING DELIVERED:** 5 months Python, HTML, and C#
- **APPRENTICESHIP:** Microsoft Software Developer

APPRENTi
The path, the plan, your career in tech.



ALEM

- **PRIOR EDUCATION:** B.A. International Security & Conflict Resolution
- **PRIOR JOB:** Uber driver
- **TRAINING DELIVERED:** 5 months Python, HTML, and C#
- **APPRENTICESHIP:** Microsoft Software Developer

APPRENTi

The path, the plan, your career in tech.

LASHAWN

- **PRIOR EDUCATION:** Some college
- **PRIOR JOB:** Signal Support Specialist in the Army
- **TRAINING DELIVERED:** 4 months of Network+, Linux+, Python, and Juniper
- **APPRENTICESHIP:** Amazon Network Development Engineer

APPRENTi™

The path, the plan, your career in tech.

MAKI

- **PRIOR EDUCATION:** Some college
- **PRIOR JOB:** Crowdsourcing specialist
- **TRAINING DELIVERED:** 5 months Python, HTML, and C#
- **APPRENTICESHIP:** Microsoft Software Developer

APPRENTi™

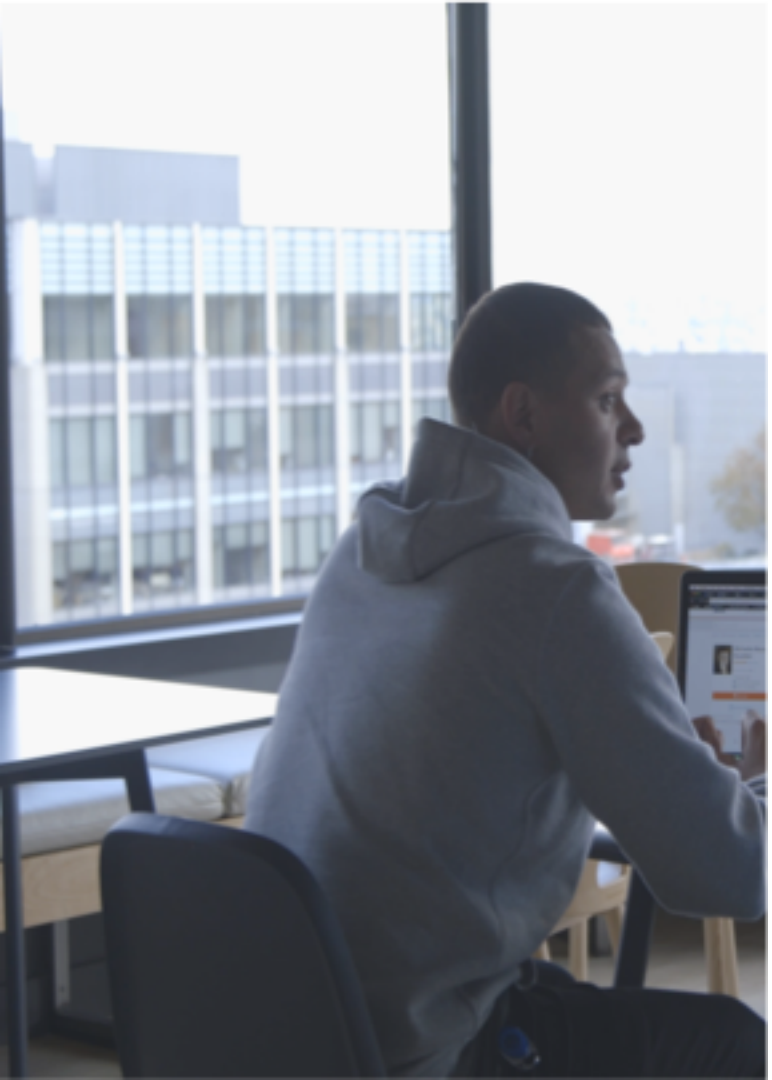
The path, the plan, your career in tech.

VIVIAN

- **PRIOR EDUCATION:** Some college
- **PRIOR JOB:** Network Admin, veteran
- **TRAINING DELIVERED:** 4 months of Network+, Linux+, Python, and Juniper
- **APPRENTICESHIP:** Amazon Network Development Engineer

APPRENTi™

The path, the plan, your career in tech.



SHAWN

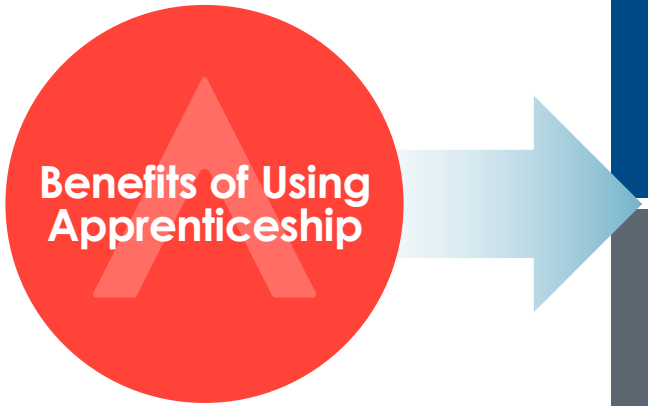
PRIOR EDUCATION: B.A. in Business & Art; Associates in Computer Science

- **PRIOR JOB:** Lead at moving company
- **TRAINING DELIVERED:** 5 months HTML, CSS, JavaScript, Node/Angular.js
- **APPRENTICESHIP:** Avvo Web Developer
- **CONVERTED**: to staff after 8 months

APPRENTi™

The path, the plan, your career in tech.

Benefits of Registered Apprenticeship



FOR COMPANIES

- Protected wage differential while learning on the job
- Cost-effective access to pre-screened, diverse talent
- Competency assessment includes math, logic & critical thinking, emotional intelligence
- Technical training delivered prior to beginning 1-year of on-the-job training
- Apprenti manages state and federal compliance and reporting

FOR APPRENTICES

- Competency and time-based pathway to strong IT career
- Living wage with benefits and subsidized training
- Mentorship while on the job
- Standardized, portable, skills & credentials

Whose hiring registered tech apprentices?

WASHINGTON
- Microsoft
- Amazon
- F5
- Concur
- Docusign
- Silicon Mechanics
- Avvo.com
- Comtech

OREGON
- CBT Nuggets
- Palo Alto Software
- GL Solutions
- XS Media
- City of Eugene
- Five Talent

ATLANTA
CHICAGO
DALLAS
VIRGINIA
- Amazon, All Four
- JPMorgan Chase, CHICAGO

SE MICHIGAN
- OneMagnify

OHIO
- JPMorgan Chase
- KROGER
- Proctor & Gamble
- Great American
- CareSource
- UC Health
- Cincinnati Bell
- Caresource
- TriHealth

NASHVILLE
- Change Healthcare
- Asurion
- Bank of New York Mellon
- Eventbrite
- Ingram Content
- Lifeway
- Teklink
- InfoWorks
- Brookdale
- Kraft Technologies
- UBS
- 3-D Technology Group

In Process: Northern California (8), Baton Rouge (3), Boston (10), Phoenix (5) + New markets under review

APPRENTi

The path, the plan, your career in tech.

Thank You

For more information, please contact

jennifer@apprenticareers.org

Or visit

www.ApprentiCareers.org