



Beyond Tech

The Rising Demand for IT Skills in Non-Tech Industries

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What Most People Think IT Workers Do...



...What IT Workers Really Do



Closing the IT Perception Gap



Beyond Tech

The Rising Demand for IT Skills
in Non-Tech Industries

August 2019



- Burning Glass and Oracle Academy partnered to research demand for IT jobs and skills in non-tech industries
- This is the third in a series of reports that Burning Glass and Oracle Academy have released to illuminate the true demand for IT skills across the economy

Burning Glass bridges Data science and practical application

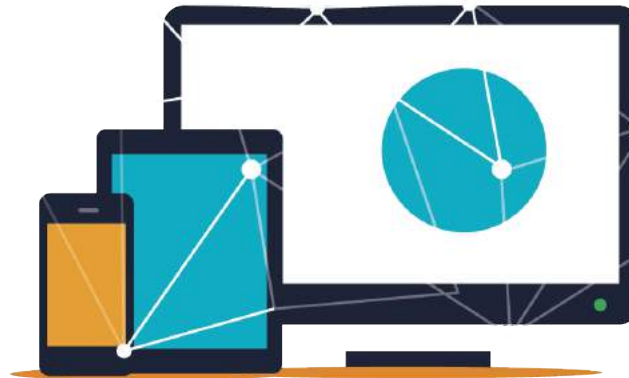
Burning Glass data have been built over 15 years with robust taxonomies and the industry's largest in-house data science team.

3.4 million

Active unique jobs
collected daily

50,000

Sources across the web - job
boards and corporate sites



80%

Deduplication ensuring
integrity and consistency

300 million

Resumes processed
per annum

>1 million

Firms represented, from
large corporations to SME's

Dynamic Labor Market Taxonomy

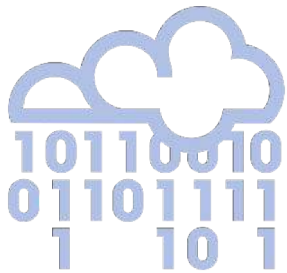
23	Career Areas
1,700	Occupations
18,000	Skills
60,000	Skill Variants

>1 billion

Historical job market
records

Key innovations

Make job data comprehensive & actionable



REAL-TIME DATA COLLECTION

We are driving a shift in labor market research from macroeconomic survey to comprehensive job posting collection



COMMON LANGUAGE

Our taxonomies allow us to aggregate job market signals across an array of dimensions and identify key trends



PREDICTIVE ANALYTICS

We deliver a range of modeled insights, including accurate future projections and career and learning recommendation.



MATCHING AT SCALE

Robust market intel enables a shift from affecting individual labor market transactions to strategic investment & redeployment

Isolating the Universe of IT Jobs



1

Identify over 1,900 skills and close to 170 occupations related to IT

2

Mine Burning Glass's database of more than 150 million unique online job openings to identify jobs requesting IT skills or occupations

3

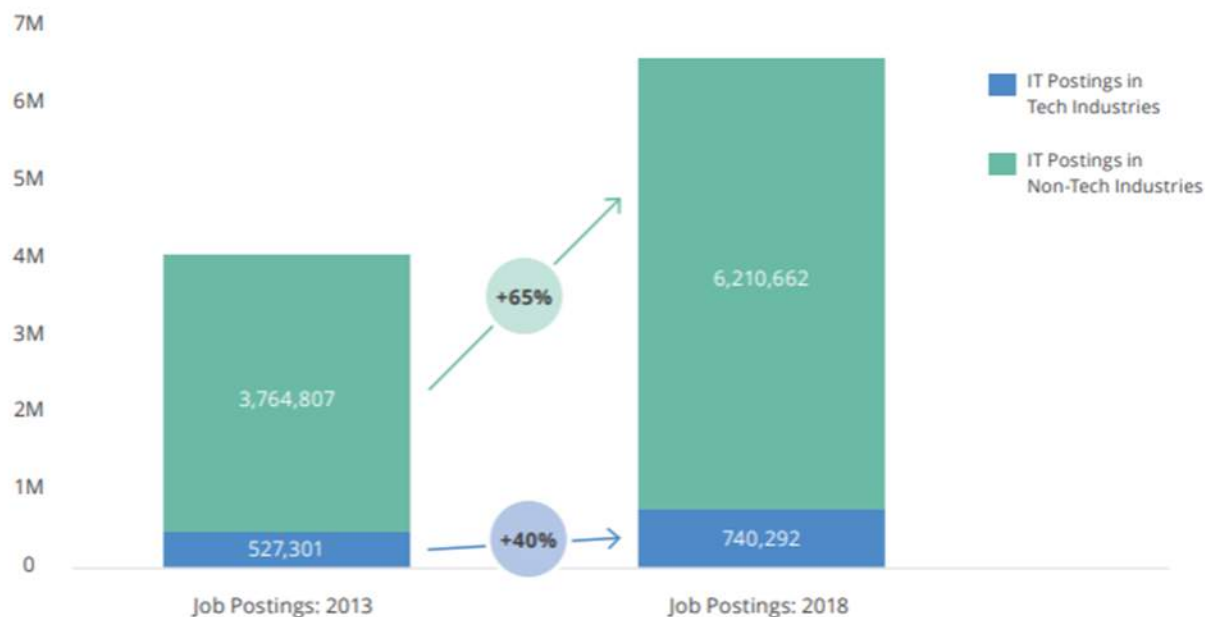
Classify jobs into tech or non-tech sectors based upon NAICS industry codes (informed by CompTIA's definition of tech industry)

What Did We Learn?

IT Jobs are Large and Growing Especially Outside of the Tech Industry

- In 2018 there were over 6.9m IT job openings
- The majority of IT job openings – 89 percent – were in non-tech industries
- From 2013-2018, IT jobs outside of tech grew over 60% faster than in tech

The Vast Majority of IT Job Openings are Outside the Tech Industry



Source: Burning Glass Technologies 2019

Across Roles, Non-Tech IT Opportunities Dwarf Those in Tech



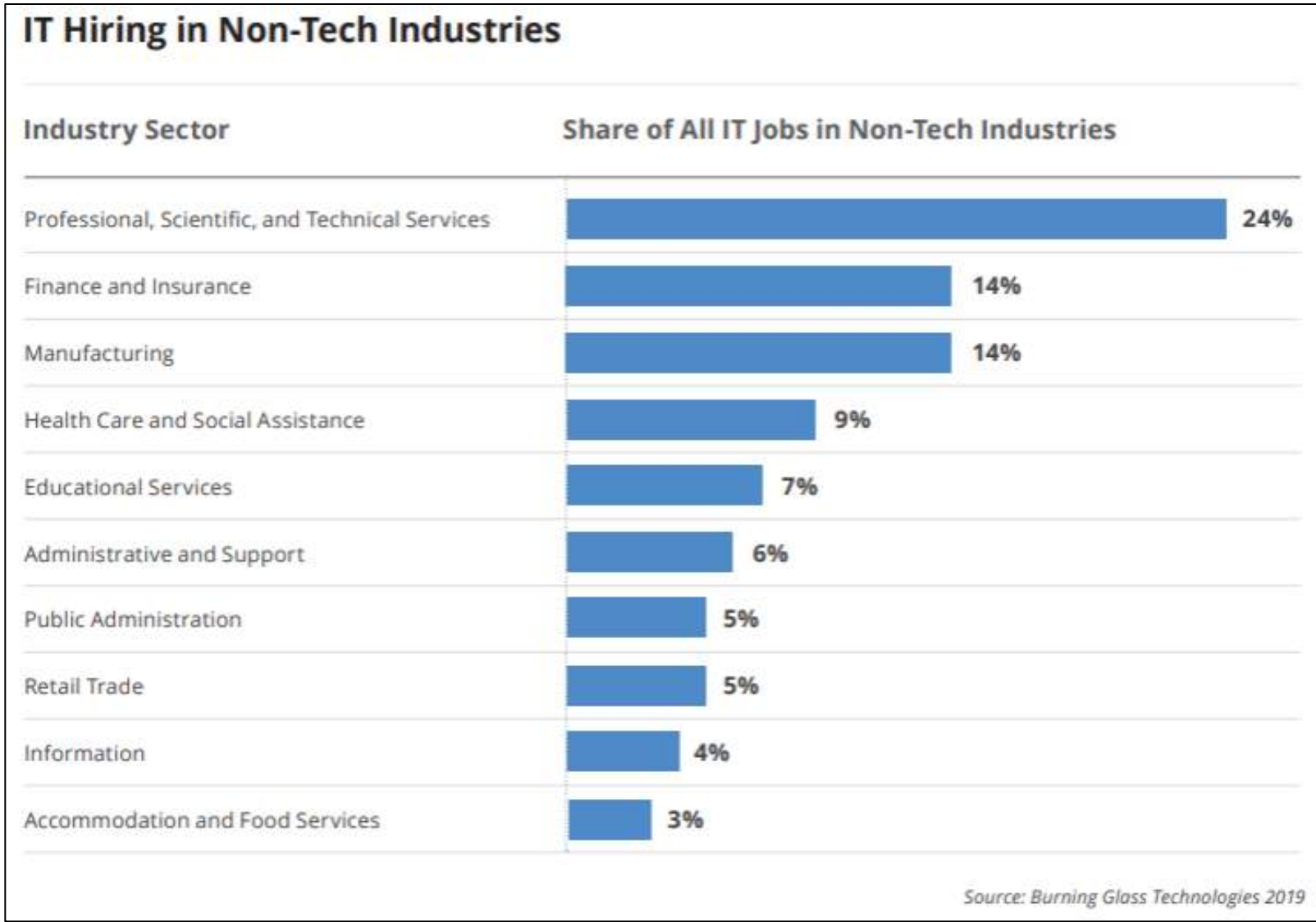
2018 U.S. Demand for Selected IT Roles in Tech and Non-Tech Industries

Occupation	IT Postings	Share of IT Postings in Tech Industries	Share of IT Postings in Non-Tech Industries
Development			
Software Developer / Engineer	315,824	10%	90%
Application Developer / Engineer	80,150	9%	91%
Networking and Systems			
Network Engineer / Architect	112,122	12%	88%
Systems Engineer	107,221	15%	85%
Computer Support			
Computer Support Specialist	71,462	5%	95%
Help Desk Technician / Analyst	48,628	5%	95%

Source: Burning Glass Technologies 2019

All Industries are Tech-Adjacent

IT Jobs Are Demanded Across all Industries



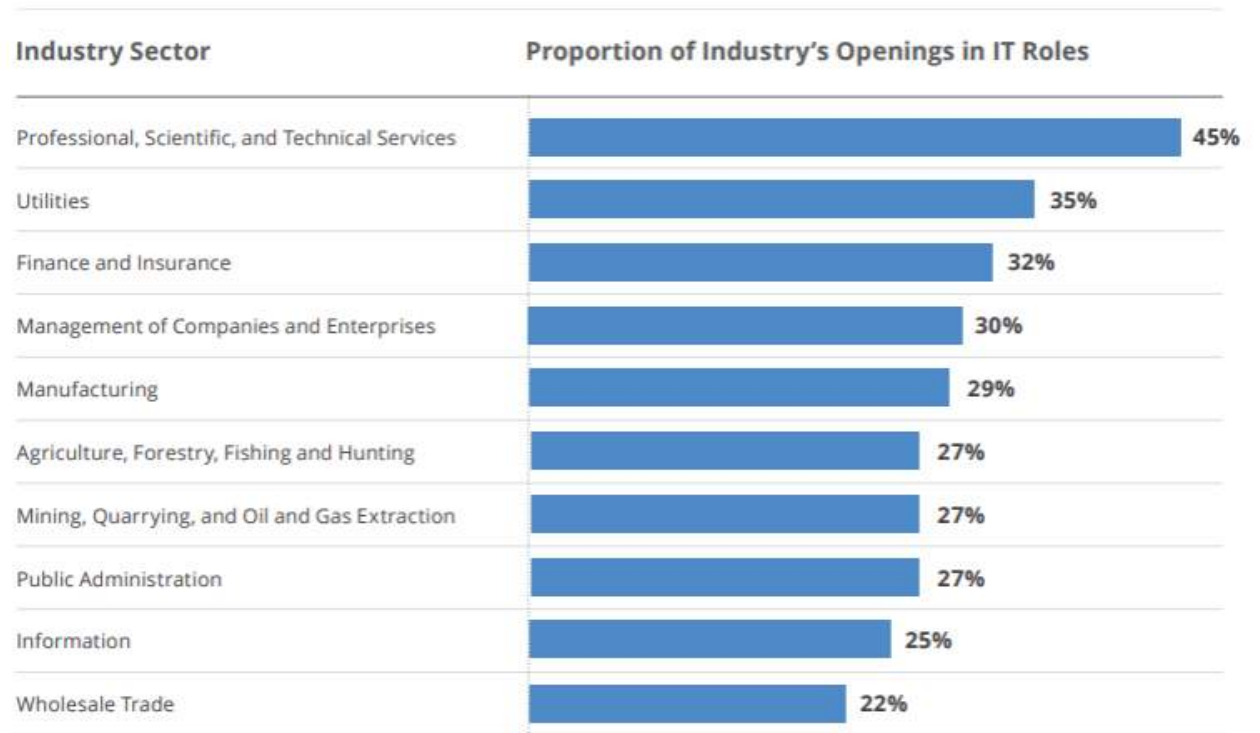
All Industries are IT-Enabled

But IT Jobs Leave a Bigger Footprint in Some Industries Than Others



- IT jobs are critical across industries
- Nearly half of all job openings in professional services are IT jobs
- IT jobs account for over 30% of all job openings in Utilities and Finance & Insurance

Proportion of Each Non-Tech Industry's Openings that are IT Roles



Source: Burning Glass Technologies 2019

Not All IT Jobs Are Created Equal

Skill Requirements Differ Across Industries



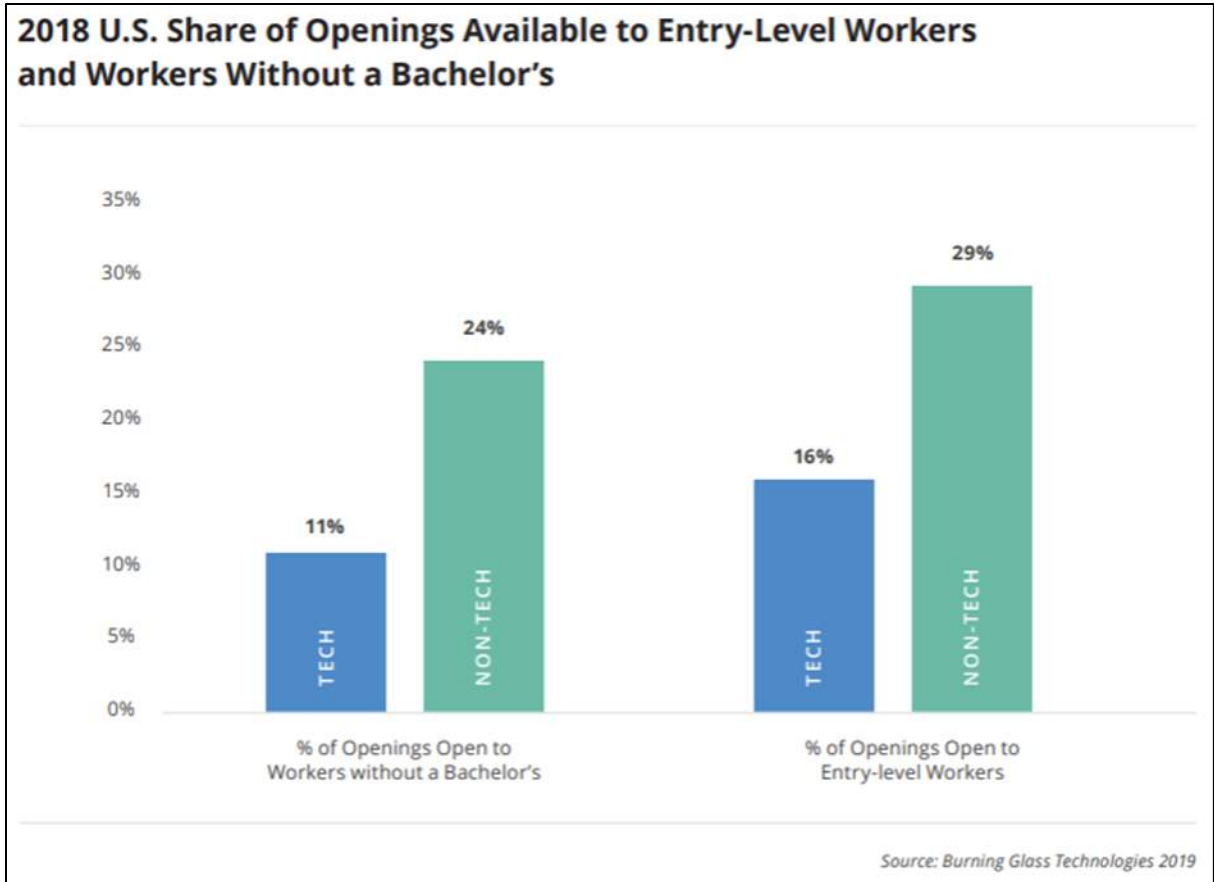
- Some IT skills are important across industries – such as SQL – while some skills are more prevalent in specific industries, such as data analysis in Finance or ERP software in Manufacturing
- This underscores the need for IT workers to understand the skill needs of each industry and build the adaptability to combine new sets of skills

Tech Sector	Non-tech Sector: Finance	Non-tech Sector: Manufacturing Industry
1. Software Development	1. SQL	1. ERP Software
2. SQL	2. Data Analysis	2. Technical Support
3. Java	3. Java	3. Data Analysis
4. Python	4. Software Development	4. Software Development
5. Linux	5. Python	5. SQL

Source: Burning Glass Technologies 2019

IT Jobs Outside of Tech Help Workers Gain a Foothold Non-Tech IT Jobs Are More Accessible

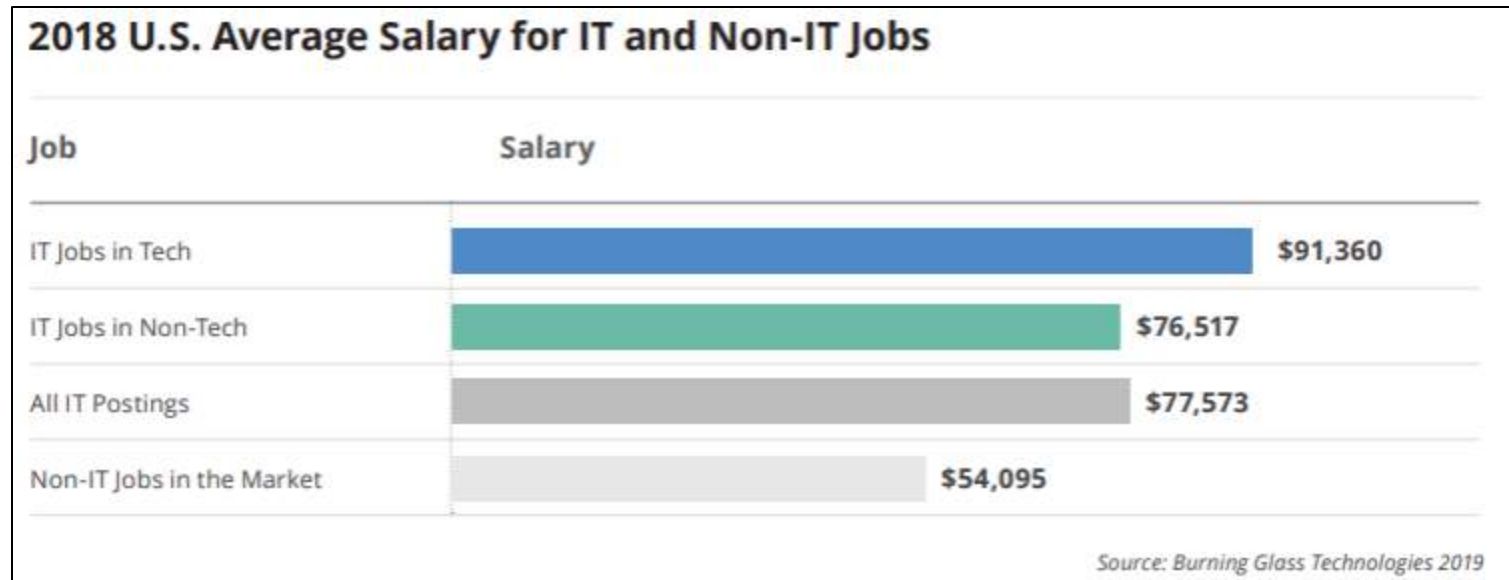
- IT jobs outside of tech are less likely to request a bachelor's degree or previous work experience
- This makes non-tech IT jobs more accessible for entry-level workers or workers without a bachelor's degree



IT Jobs Are Highly Lucrative Across Sectors



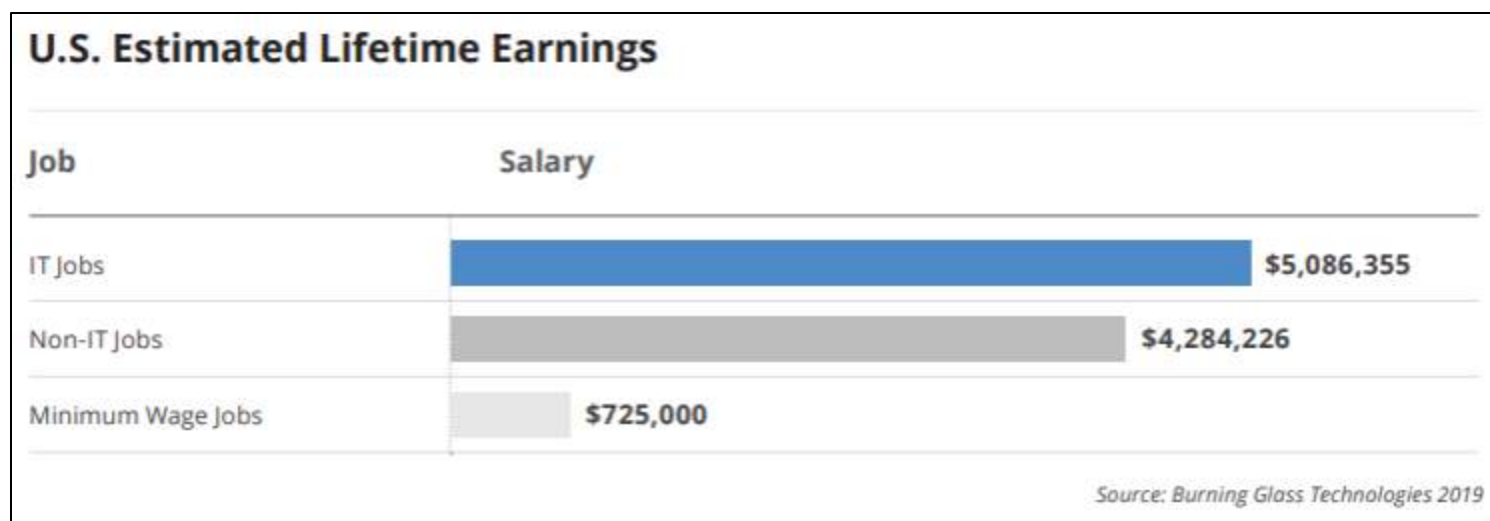
- Across tech and non-tech sectors, IT jobs pay impressive salaries
- However, the tech industry pays a premium, offering IT salaries close to \$15,000 above those in non-tech
- Nonetheless, IT jobs both in and out of tech pay substantially more than non-IT jobs, on the order of \$20,000 and up



Developing IT Skills Provides Enduring Value



- Over the course of one's career, the estimated lifetime earnings of IT workers greatly exceed those of non-IT workers, regardless of industry.
- On average, IT workers can make 19% more than non-IT workers – or \$802,129 over the course of a career.



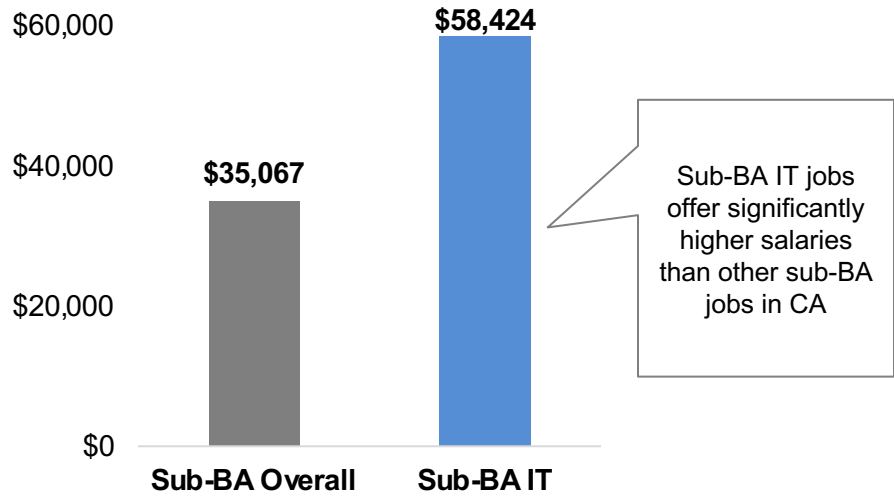
All Jobs Are Local: IT Jobs in CA



From 12/2018 through 11/2019, there were **636,201** IT job openings in California



Average Sub-BA Salary in CA



Top Non-Tech Industries for IT Jobs in CA

Industry
Insurance Carriers
Aerospace Manufacturing
Architectural Services
Banks
Higher Education
Hospitals
National Security
Pharmaceutical Manufacturing
Physician Offices
Legislative and Government Support

Greater concentration in CA than the nation overall

Top IT Occupations in CA

Job Title
Software Developer
Computer Systems Engineer
Computer Support Specialist
IT Project Manager
Web Developer
Network Engineer
Software QA Engineer / Tester
Systems Analyst
Cybersecurity Engineer
Database Administrator

Bolded jobs have at least 1,000 job openings for sub-BA workers

What Can Educators Do?

Spread the Word to Entry-Level Workers

Promote Non-Tech IT Jobs for their Accessibility



- IT jobs outside of tech are more accessible, especially for workers without a bachelor's degree or significant work experience
- This makes them strong targets for entry-level workers
- Communicating opportunities outside of tech to these workers can increase their post-employment opportunities

Break Down Silos

Embed IT Skills Within Curricula Across Departments

- IT jobs require a diverse mix of skills across industries
- Preparing students for these jobs requires coordinated teaching across disciplines
- Teachers may embed IT skills within curricula regardless of department

Battle Misperceptions

Communicate the True Range and Value of IT Job Opportunities

- IT jobs and skills offer significantly higher salaries over the course of a career
- This is true across industries and roles, but many individuals are not exposed to these opportunities
- As a result, many students are unaware of the true range of opportunities in the IT workforce
- Therefore, educators have an important role to play in communicating the full scope of opportunity in IT to their students

Case Study: How UMUC Drives Enrollment and Engagement By Demonstrating Value



Course Alignment = Advocacy Opportunity

Enrollment Marketing: Burning Glass data not only helped University of Maryland University College develop its highly successful Data Science program but also promote the program based on market relevance.



Questions?