

Higher Education and American Economic Mobility

February 2019



Future of College?

- Critical topic not only for:
 - 4,000 institutions
 - 20M students
 - 4M faculty and staff
- But for future of our country, because in the past 50 years we decided that college was the sole pathway to active participation in the dynamic economy.





Planned Obsolescence

Most colleges and universities rarely kill academic programs for underperforming. They (and their students) would be better off if they regularly culled programs that aren't giving graduates the skills they need, Ryan Craig writes.

By [Ryan Craig](#) // March 23, 2018

67 COMMENTS 

67 Comments

Inside Higher Ed

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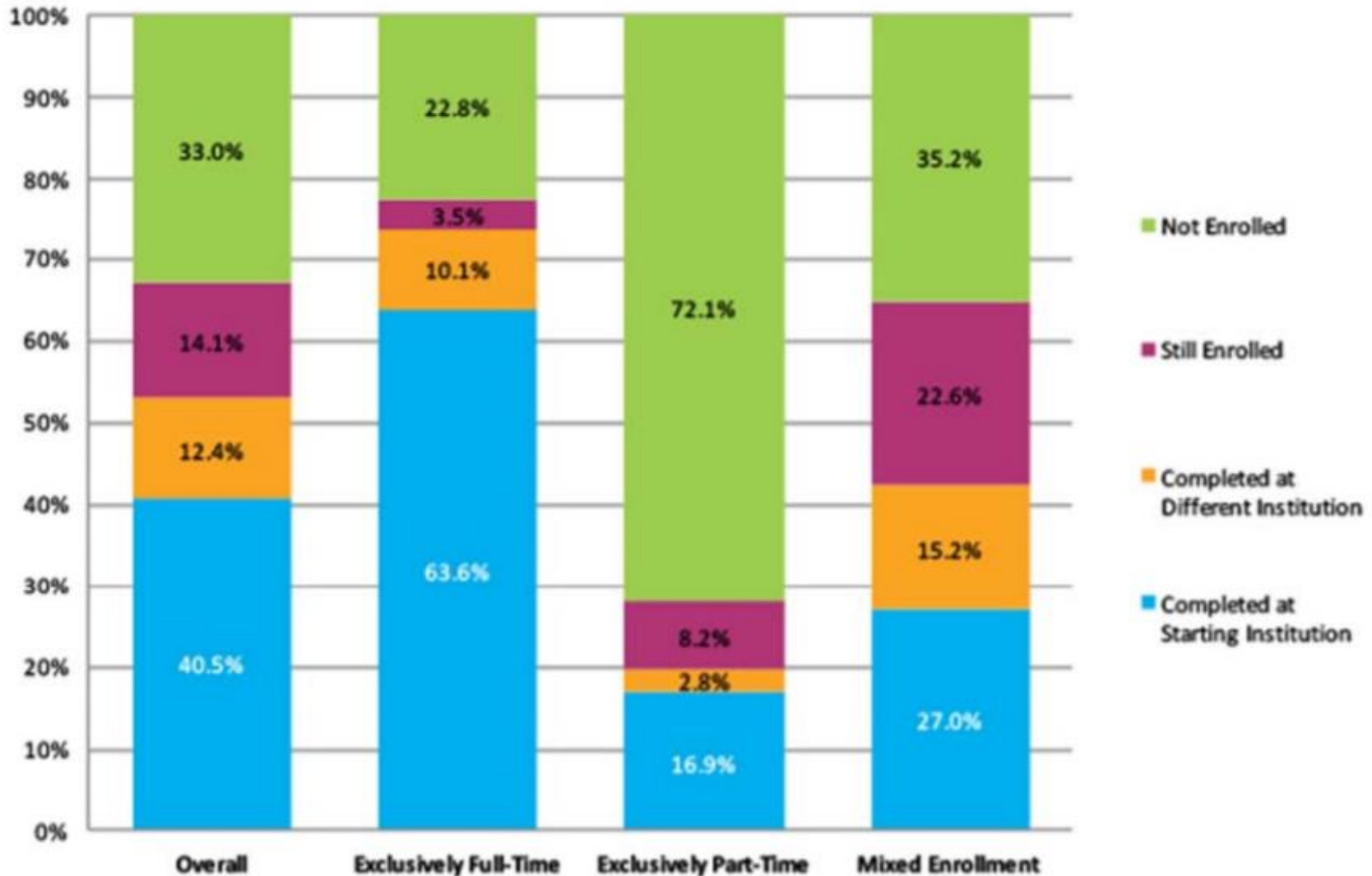
 unoso

“What you imagine to be your jaunty style is just the snowballing record of your ignorance.”

Fine if Students Graduated...

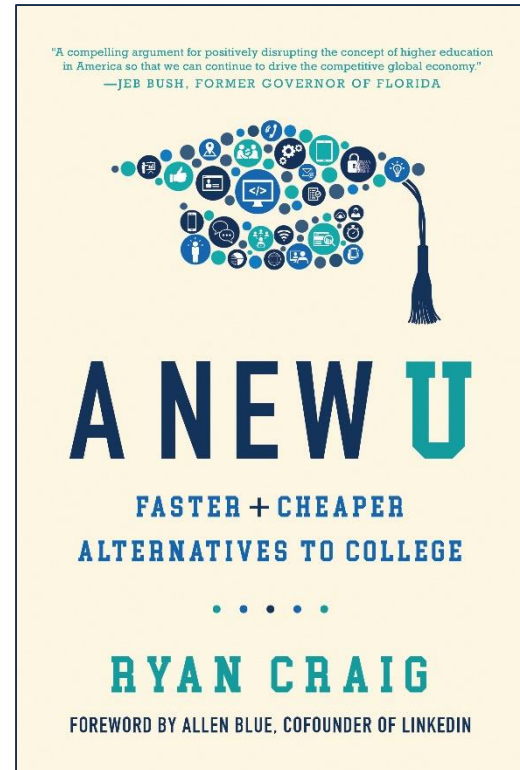


Six Years After Enrolling



Profile of Dropouts

- **Simon Kim**
 - Completed two years of CC, then transferred to UC Merced
 - Dropped out when found some credits didn't transfer
- **Mark Anthony Robles**
 - Accepted to UCLA, but family health issue resulted in enrollment at local CC
 - Did not complete
- **Antony Pegues**
 - Did not get into desired program at CC, dropped out
- **Justin Marsh**
 - Enrolled at University of Illinois for computer science
 - Dropped out and made money playing poker online
- **Quinton Bolt**
 - Dropped out of computer science program at NW Mississippi CC



The State of College Affordability

- Avg. \$37k per graduate who takes out loans
- Now over \$1.5 trillion in total
- Grown over 800% per household since 1999.
- 12M borrowers in their 30s still owe avg. of \$34k.
- Nearly 1,500 colleges and universities where majority of students are making interest-only payments on their loans, or no payments at all.
- Only 57% current
- 8M of 44M in default
- 1M borrowers default for the first time each year.
- One third of borrowers graduating between '06 and '11 have defaulted.

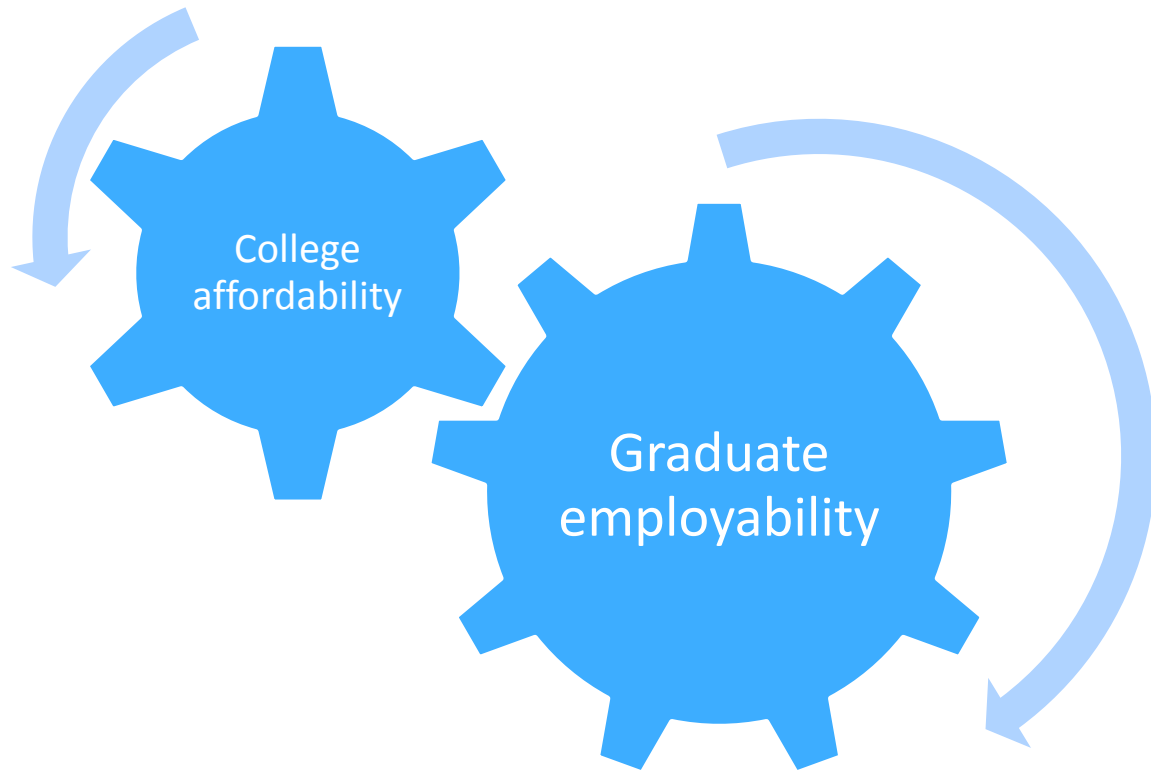
“Stop Calling Millennials the Facebook Generation. They’re the Student Loan Generation.”

Millennials: Economic Underperformance

- Wealth
- Income
- Housing
- New business creation



Twin Crises Lead to Poor Economic Outcomes



College Not Keeping Up With Digital Economy



THE CHRONICLE OF HIGHER EDUCATION

CURRICULUM



How to Revamp a Curriculum Quickly — but Not Too Quickly

Those conditions can pose a trap for well-meaning administrators and faculty members. Work-force demand can lead some institutions to teach students the skills needed for today's entry-level jobs. But those tools may well be obsolete five or 10 years from now



Sara Goldrick-Rab  @saragoldrickrab · Jun 5

Sorry, that isn't a shared goal. It is a questionable goal, in fact.

Ryan Craig @ryancraiguv

Replying to @djvanness

Thanks for your comment. How does faculty governance get us closer to the shared goal of better aligning curricula with labor market needs?



Career Services: A Poor Interface

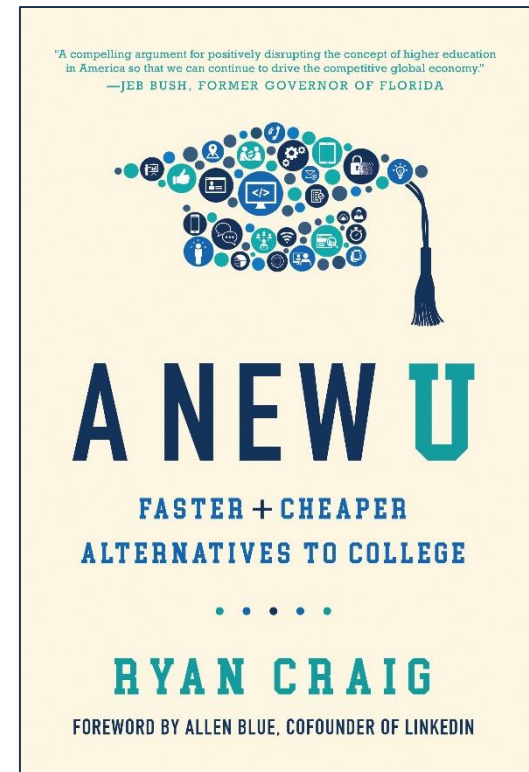


“Career services must die”
- Andy Chan, VP Career Dev’t at Wake Forest

Since the Recession, colleges and universities have cut spending on career services by 11.4%.

Graduated into Underemployment

- **Samantha Wolverton**
 - George Mason international relations with minor in software engineering; worked in restaurant for a year after graduating
- **Christina DiMartino**
 - Mediocre grades in high school, then worked as waitress
 - Enrolled in business program at community college, dropped out
 - Attended for-profit college, got low-paying job as medical assistant
- **Morgan Combs**
 - Degree in psychology, then worked in restaurant
- **Yasmine Sadid**
 - Kent State computer science; best job was as realtor's assistant
- **Wendy Pei**
 - Graduated from SF State, then worked in restaurants and retail for a decade
- **Jeffrey King**
 - Completed AA degree at CC, then worked as a waiter
 - Returned to UNLV to earn degree in actuarial sciences, still couldn't get a job



Crisis of Underemployment

- Not unemployment, as student loans causing graduates to take first job that allows them to make loan payments.
- But “underemployment”:
 - Federal Reserve Bank of NY estimate: 45% of new college grads are underemployed.
 - Nearly 5M working part-time, would like full-time
 - Underemployed earn \$10k less p.a.
 - Strada/Burning Glass finds pernicious persistence: 2/3 are still underemployed after 5 years, and 1/2 after 10 years.
 - Strada/Gallup survey: landing a job before graduation makes you 2.4x more likely to eventually exceed \$60k vs. waiting (which leads to underemployment).

The Permanent Detour



But Not Entirely Higher Education's Fault: Mechanics of Hiring Have Changed

Hiring managers that use ATS:

<1%

2000:

75%

Today:

Companies that used social media to recruit:

<1%

2000:

73%

Today:

Most popular application mediums:



2000:

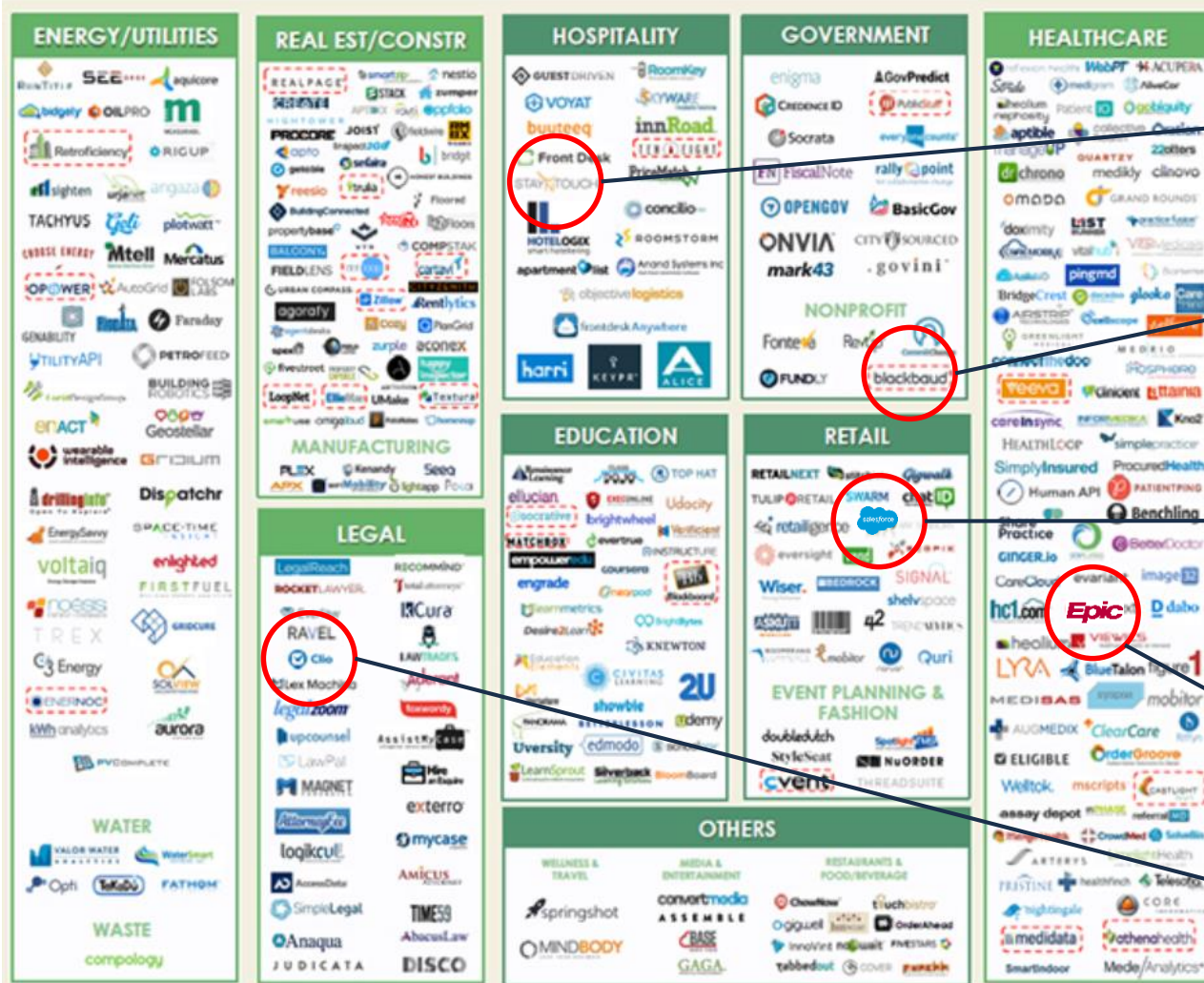
Today:



Why Are Employment Outcomes Worse? Proliferation of Technical Skills

Career Area	Technical Skills Specified	Cognitive and Soft Skills Specified
Information Technology	75%	25%
Healthcare	74%	26%
Engineering	71%	29%
Life/Physical Science and Math	68%	32%
Manufacturing and Production	68%	32%
Design, Media, and Writing	66%	34%
Research, Planning, and Analysis	65%	35%
Personal Care and Services	63%	37%
Finance	62%	38%
Marketing and Public Relations	62%	38%
Management and Operations	61%	39%
Education and Human Services	60%	40%
Hospitality, Food, and Tourism	59%	41%
Sales	59%	41%
Human Resources	57%	43%
Clerical and Administrative	57%	43%
Customer and Client Support	49%	51%

What Are These Technical Skills?



STAYINTOUCH

blackbaud
power your passion

salesforce

Epic

Clio

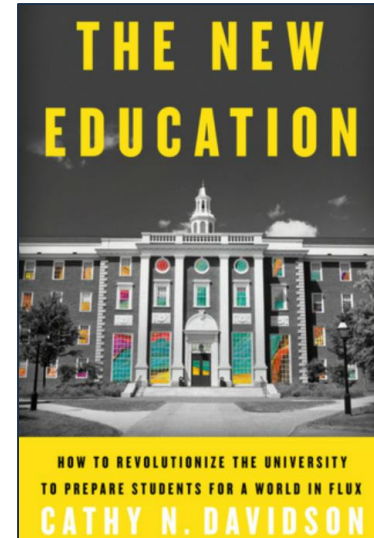
Myth of the Digital Native

“We don’t need to educate students on business software because they’re digital natives.”



How Not to React

“But the most relevant education in the world cannot change a labor market rigged against the middle class. This is a social problem, not a higher education problem.”



To paraphrase Donald Rumsfeld:
 “You're sending young people out into the labor market you have, not the labor market you might want or wish to have at a later time.”

America's Skills Gap

Underemployment One of Many Problems

1. Decline in labor market participation



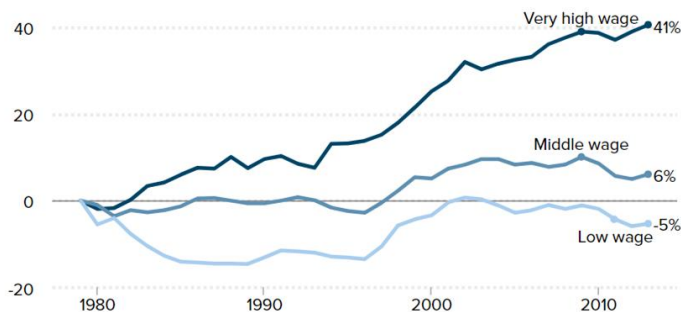
3. Employers unable to fill open jobs

6.7M job openings, nearly 3/4 middle or high skill



2. Wage stagnation

Cumulative change in real hourly wages of all workers, by wage percentile, 1979-2013



4. Diversity

- Top 75 tech firms: 2% African-American, 4% Latino, 30% women.
- Data science: 26% women

Skills Gap is Source of Major Challenges

1) "American Dream collapsing"

Rise in inequality, reduction in socioeconomic mobility.

2) "Democracy dying"

Sense that good jobs are out of reach leads to loss of hope, exacerbating opioid epidemic, rural/urban divide, and increasing political extremism.



3) "Falling behind China"

Diminished economic growth and competitiveness.

- **Millions of workers needed in growing sectors like IT and healthcare.**
- **Technology about to make problem worse (repetitive processes that can be automated, will be automated)**

Immigration Pressures Causing Gap to Grow



The H1B Visa Struggle: No Relief in Sight

Over the past 18 months, the Trump administration has been struggling with the H1B visa system. There is no relief in the vicinity.

Trump administration reconfirms intent to rescind H-4 rule on H1B visa spouses

PTI | Updated: Jun 15, 2018, 02:09 PM IST



A+



The Trump administration has reconfirmed its intent to rescind the H-4 visa rule on employment authorisation to certain spouses of H-1B visa holders, a proposal that could hit tens of thousands of Indian women in the US.

The Trump administration is currently reviewing the H-1B visa policy that it thinks is being misused by companies to replace American workers.

As per the notification published on Monday, the Department of Homeland Security is proposing to remove from its regulations certain H-4 spouses of H-1B nonimmigrants as a class of aliens eligible for employment authorisation.

The H1B visa is a non-immigrant visa that allows US companies to employ foreign workers in speciality occupations. The work visa is popular among Indian IT professionals.

services.com/pagead/aclk?sa=l&ai=CakrMEI0iW5m2...

Market Failure: Two Distinct Frictions

Education Friction:



Hiring Friction:

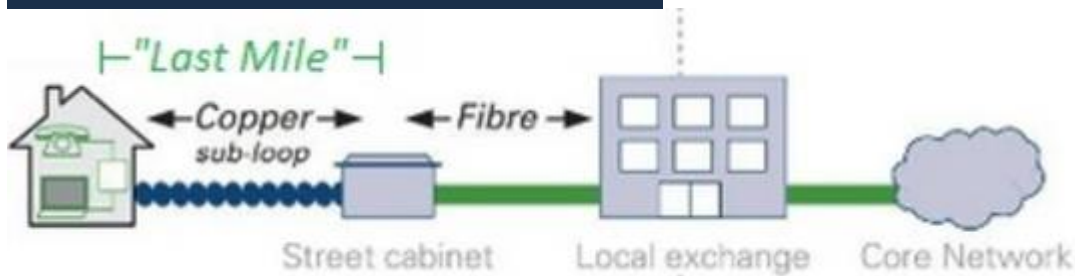


salesforce

Last-Mile Training



Borrowed from Telephony



- Hardest + most expensive to build
- Therefore most valuable segment
- Basis for natural monopoly

Talent Market Correlation



1. Digital training

- Minimum: Ensures candidate no longer filtered out of ATS
- Maximum: Offers training and experience on exact SaaS platforms employers utilize



2. Soft-skills training

- Real project work in work-like setting furthers teamwork, communication, organization skills
- Interview preparation and training



3. Absorbing frictions

- Absorb education frictions by eliminating upfront tuition and guaranteeing employment outcome
- Absorb hiring frictions by funding training + providing employers with opportunity to try before they hire

Design Thinking Cure for Labor Market Ailments



90%+

Primary/sole
motivation to pursue
postsecondary
education is
job/income



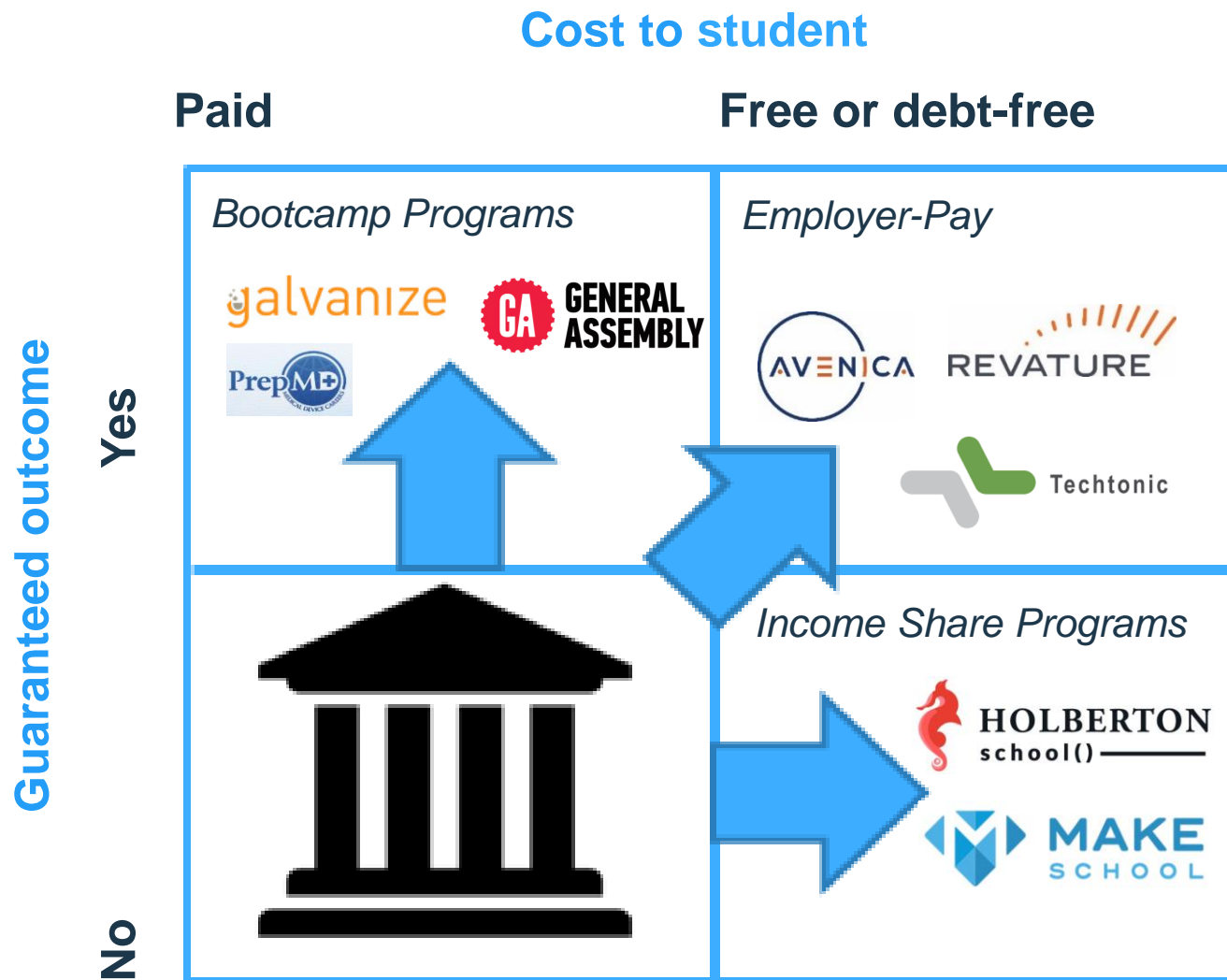
Students no longer buy
tired line that college
prepares you for your
5th job.
1st job is key.



Start with
1st job
Build backwards
from there

- **Historically, our approach to postsecondary education has been to build forward from K-12**
- **Design thinking requires that we begin building backwards from good first jobs in growing sectors of the economy**
- **Most critical for students who are at greatest socioeconomic risk**

LMT Can Provide Better Value to Students



LMT Can Reduce Education Friction



Example: \$10,000 funding gap for senior engineering major



School advances tuition to student

vemo • Originates ISA
EDUCATION • Services ISA



Student obliged to repay after graduation with defined:

- Income share %
- Payment term (capped)
- Payment cap (\$)
- Rules for deferral (graduate school)
- Minimum income threshold

LMT Can Eliminate Both Frictions



Value Proposition to Clients

Changing The Way The World Hires

Our proprietary talent development and delivery program takes the unpredictability out of securing the right people while eliminating wasted efforts, time and money in the process.



Recruit

We're selective about our technology talent, recruiting the top 1% from colleges and universities throughout the country.



Develop

Through our intensive coding immersion programs, we turn web developers into world-class software engineers.



Deploy

We deliver job-ready technology talent fast, cutting down onboarding time so you can focus on your project's success.



Hire

Our talent seamlessly integrates with existing technology teams so well that they end up being hired by clients.

Value Proposition to Students

Why Revature?

At Revature, it's more than a job—we provide careers in technology. Our program gives you the next-gen skills needed to work at top companies, on projects that make a difference. Gaining the tools you need to be successful starts here.

[APPLY NOW >](#)

1 Work with relevant technologies

You work intensively with enterprise-level technologies that companies are using today—as well as next-gen and niche technologies that are shaping the future of business.



4 Showcase your talents

You can develop a comprehensive online portfolio that showcases your projects, skills, experience, certifications, academic coursework, and more—equating them to actual industry experience.



5 Start your technology career faster

Our intensive program gives you the leading-edge, enterprise-level technology skills businesses need in as little as 12 weeks. Our software engineers are in demand across the country.



6 Work with top companies

Revature software engineers work at some of the top companies in the country on projects that are making a difference.

- Free 10-12-week bootcamp program
- Hired from day 1, apprentice wage
- 2-year commitment, relocate to client site
- Pathway to first job, and probably second



University of Missouri



University of Maryland University College



LMT Produces Good Outcomes for Students



“Training on **technologies that are actually used** in entry-level development jobs. The software engineering minor in college taught me the basics of only one programming language. In this job, I get way more **experience and in-depth understanding** of the programs we use. Revature trained me on most of the skills and technologies I actually use in my job.”

**Samantha Wolverton,
George Mason '16, Revature '17**

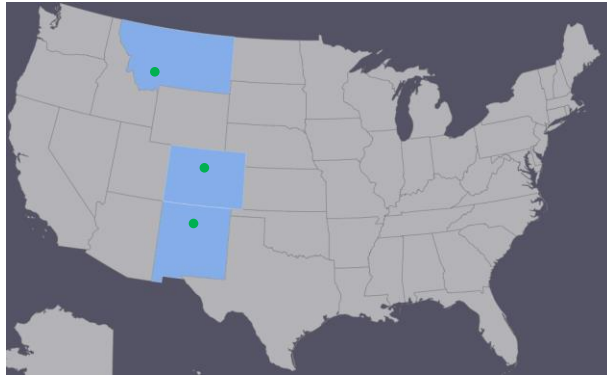


“In university, **there was no talk of frameworks**. We learned how to write everything out from scratch. But at a job, there’s no need to do that because someone’s already done it. **Revature got me the job I wanted, because clearly my degree wasn’t enough.**”

**Yasmine Sadid,
Kent State '14, Revature '16**

- **Diversity in IT hiring also valuable to clients**
- **Revature has recruited and launched all-female cohorts and all-Puerto Rican cohorts**

Techtonic: Dev Shop + Registered Apprenticeship



(Boulder County Workforce, Arapahoe County Workforce, Jefferson County Workforce, Colorado Technology Association, Denver Workforce, Technology Employment in Colorado Partnership, Colorado Department of Labor and Employment (CDLE) and various non-profits)



Recruit

- Recruit candidates for apprenticeship program based on potential, not pedigree or degree.
- Candidates come through CO WIBs (75 different contacts), but selective (500 applicants per cohort).



Train

- 12-week Academy.
- Classes + paired programming.
- WIBs fund up to \$10k per trainee (separate deals with eight CO WIBs).
- Apprentices paid \$15 per hour.
- \$500,000 grant from CDLE in 2017.



Deploy

- By week 5 or 6, working on project and billing hours.
- Billing based on work, but up to \$100 per hour.



Hire

- After 1,000 hours, clients can hire apprentices at no additional cost.
- Apprentices have been working on teams with clients, thereby eliminating hiring friction.

LMT Means Renaissance of Apprenticeships in U.S.



Central European Model: Gov't-industry collaboration

- Clear link to funding
- But impossible to replicate in other countries



UK Model: Apprenticeship Service Providers



Making Apprenticeships Work
BY RYAN CRAIG AND TOM BEWICK

- Intermediaries sell to employers + manage, "hiding the wiring" for apprentices and employers
- But doesn't solve the fact that few employers are excited to have large #s of apprentices hanging around



American Model: Outsourced Apprenticeships



Techtonic Group raises \$2 million to transform tech hiring through apprenticeships

- Service providers sell + manage
- They also host apprentices until employer-clients are ready to hire based on proven work
- Relevant to any skill gap area where services are outsourced

Education-Up vs. Employer-Down



Until now, all efforts to close the skills gap have been “Education-Up”:

Hope employers hire grads

- Deliver curriculum

- Develop curriculum

- Determine missing skills

“Employer-Down” starts with intermediaries that already have relationships with dozens or hundreds of employers

Staffing or business services company

- Consult with clients on needed skills

- Build LMT into model

- Allow clients to try before they buy

Employer-Down Pathways Should Foster Greater Geographic Mobility



Slate

Road to Nowhere

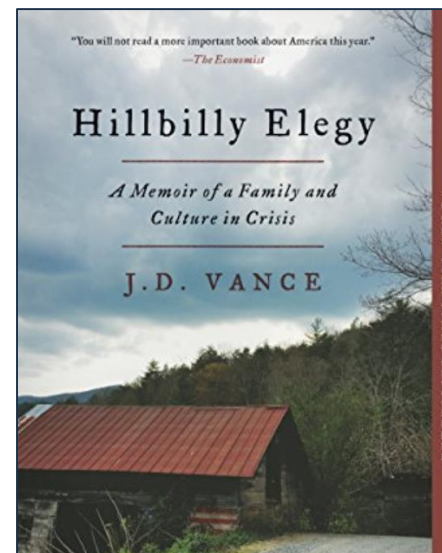
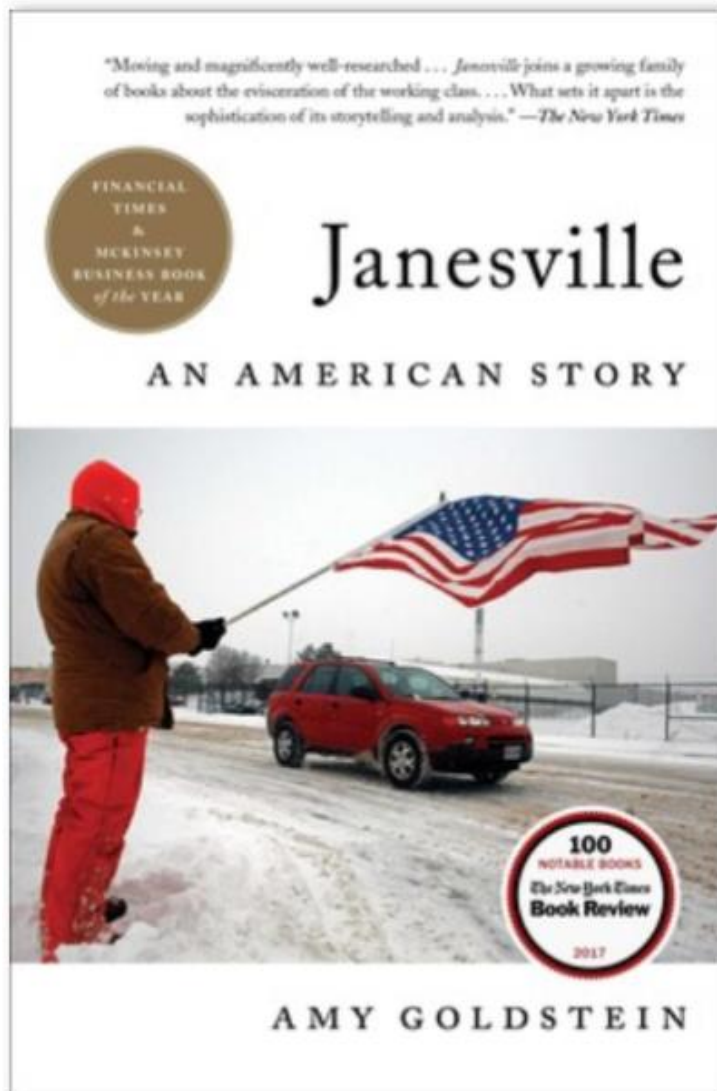
America has a moving crisis.

America's declining mobility has millennials feeling stuck

Why Americans are moving less, and why that's a big deal for housing and economic opportunity

Guaranteeing employment eliminates Education Friction and encourages mobility to more dynamic geographic regions.

Should College Classrooms be the Only Path?



"It's like our politicians think college is the only way... For many, it's great. But a lot of our kids have no realistic shot of getting a college degree."

Welcome to Lifelong Learning

The Promised Land



But Will Need Much More Career Discovery in High Schools



Top 5 Reasons to Work in the Insurance Industry

A red rectangular banner with white text at the top. Below the text are five circular icons: a family of four, a money bag with a dollar sign, a bar chart with an upward arrow, a calendar, and a document with a red cover.A woman with dark hair, wearing a black headset with a microphone, smiling. She is wearing a dark blazer. The background is a solid teal color.

Why Everyone Should Work in
Customer Service

SHOULD YOU PURSUE A GRAPHIC DESIGN CAREER?

A dark red background with a hand holding a pen, suggesting graphic design. The text is in white, bold, uppercase letters.

Data Scientist

A close-up of two blue keyboard keys on a white keyboard. The top key is labeled 'Data' and the bottom key is labeled 'Scientist' in white text.

Cloud Industry,
7 REASONS
why you should work at Cloud Industry

A group of seven people (four men and three women) standing together in a modern office or tech environment. They are dressed in business casual attire. The background shows office equipment and a blue wall.

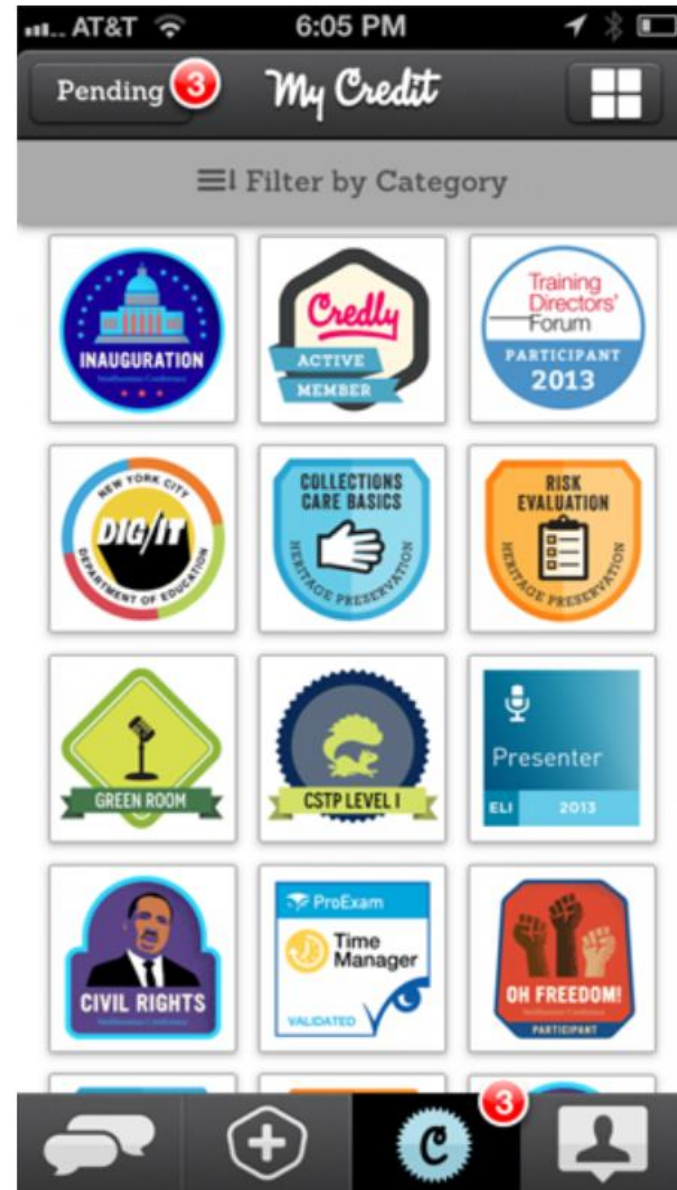
4 Reasons Why Women Should Pursue a Cybersecurity Career

A pink rectangular banner with white text. The background has a blurred image of a hand.

Also Digital Credentials



Credly



Also Competency-based Assessments



Also Secondary and Tertiary Pathways

