

The Fourth Industrial Revolution is here. We need a new education model.

The job market of tomorrow will require people to develop their technical capacity in tandem with human-only skills.



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Photo: Kenzie Academy

- Technological advancements are predicted to take as many as 75 million jobs from humans worldwide before 2022. However, 133 million new jobs are expected to be

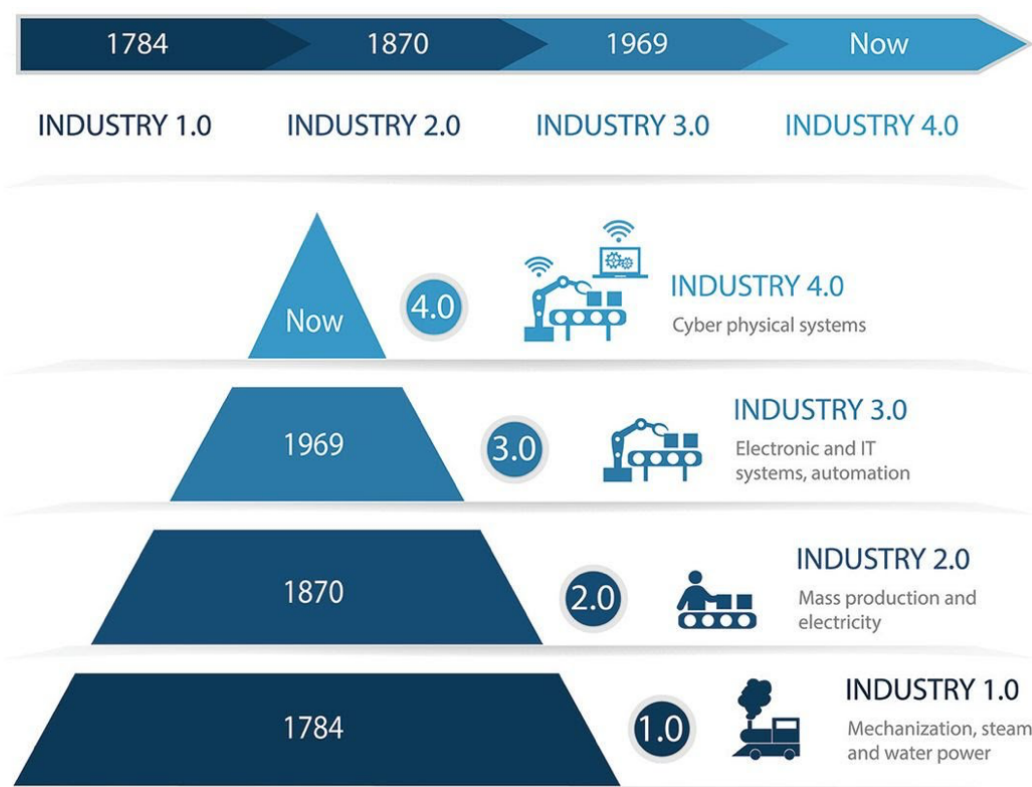
created in that same time.

- Software developer jobs are growing more than 4x faster than other occupations, a demand that translates to a median wage of \$105,590 per year (or \$50.77 per hour).
- **Kenzie Academy**, an online software and UX engineering school with an innovative tuition model, teaches technical skills along with soft skills like problem-solving, critical thinking, and team collaboration.

Every now and then, seismic shifts remap the economic landscape. While these afford opportunities for some, they can also swallow the jobs people and communities rely on to support careers and livelihoods. Just ask any lamplighter, log driver, or switchboard operator.

Even jobs that are the staples of history—our butchers, bakers, and candlestick makers—feel the aftershocks. Not long ago, these professions were the linchpins of any community. Today, they are split between small, artisanal craftspeople and mega-factories where a handful of people produce enough supply to provision several communities.

And we're already charting the tremors of the next shift. Called **the Fourth Industrial Revolution** by Klaus Schwab, founder and executive chairman of the World Economic Forum, it will see artificial intelligence, digital technology, and advancements in automation supplant vast swaths of the human workforce across many industries.



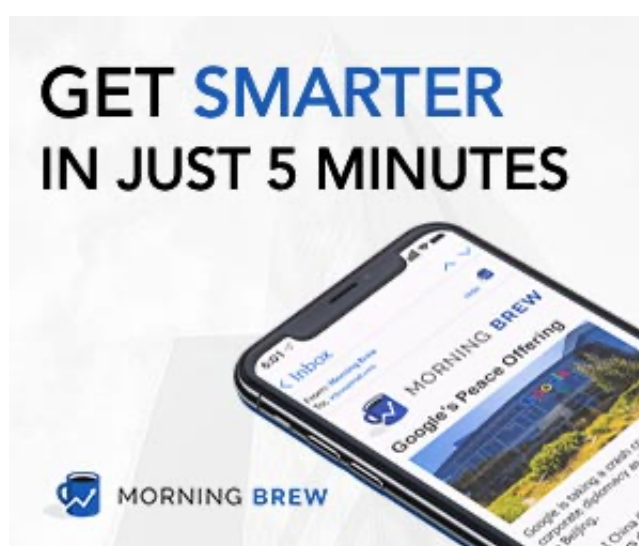
The Fourth Industrial Revolution is already underway.

Image: Shutterstock

Can we future-proof our careers and livelihoods for this enormous change? Yes, and organizations like **Kenzie Academy** are moving quickly to help workers develop the skills that will remain firmly in demand in the Fourth Industrial Revolution.

Don't go the way of the lamplighter

Lamplighters went extinct because electric lines and power grids made their jobs obsolete. Switchboard operators endured a similar fate. As noted by the World Economic Forum in *The Future of Jobs Report 2018*: "There are complex feedback loops between new technology, jobs and skills. New technologies can drive business growth, job creation and demand for specialist skills but they can also displace entire roles when certain tasks become obsolete or automated."



According to that report, 75 million current jobs are potentially on the line in the upcoming revolution. Unsurprisingly, manufacturing is forecasted to continue hemorrhaging jobs. Despite greater overall output, the U.S. has lost about **7.5 million jobs since 1980**. Many blame global trade and shifts in competition for the losses. While those have certainly been catalytic, **so has automation** and other technological advances.

Other industries that could automate a substantial portion of their workforces include agriculture, food services, transportation, and other forms of manual labor.

At first blush, this places the report in line with folk knowledge that sees the common denominator for occupations in decline to be a lack of high-level education. However, **the World Economic Forum also predicts** occupations such as paralegals, accountants, administration managers, executive secretaries, and data entry clerks to contract.

That's because the common denominator isn't education; it's job-ready skills.

Precision and manual labor can be performed better, and more safely, by a machine.

Similarly, as artificial intelligence advances, digital technology will be able to outperform people in speed and accuracy when it comes to many mental labors. To name a few: memory, mathematics, data collection, time management, and pattern recognition. And the more repetitive an occupation's core functions, the higher the risk it can be automated or computerized.



Hard skills, meet soft skills

Growing	Declining
1 Analytical thinking and innovation	1 Manual dexterity, endurance and precision
2 Active learning and learning strategies	2 Memory, verbal, auditory and spatial abilities
3 Creativity, originality and initiative	3 Management of financial, material resources
4 Technology design and programming	4 Technology installation and maintenance
5 Critical thinking and analysis	5 Reading, writing, math and active listening
6 Complex problem-solving	6 Management of personnel
7 Leadership and social influence	7 Quality control and safety awareness
8 Emotional intelligence	8 Coordination and time management
9 Reasoning, problem-solving and ideation	9 Visual, auditory and speech abilities
10 Systems analysis and evaluation	10 Technology use, monitoring and control

The World Economic Forum has defined a new set of skills (left) most required for the jobs of the future. Importantly, they're a mix of hard and soft skills. On the right are the 10 skills that are becoming less important.

Source: Future of Jobs Report 2018, World Economic Forum

So, is the future job market some judgment day-scenario where technology and artificial intelligence take all the jobs to render humans obsolete? Hardly. The bleak picture above is only half the prognosis. The World Economic Forum's report also foresees 133 million new jobs emerging by 2022 to offset the losses.

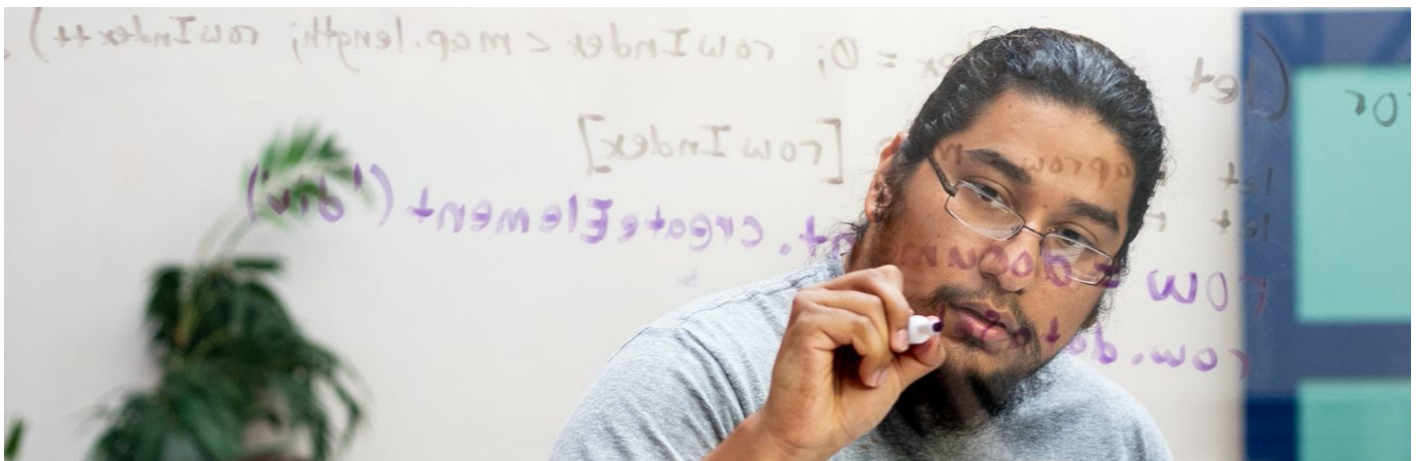
The catch? Those jobs require tech skills that many working-age people aren't currently trained for.

Schools like **Kenzie Academy** understand that in-demand soft skills including creativity, innovation, active learning, critical thinking, emotional intelligence, and problem-solving—that is, "human skills"—are not easily duplicated by an app. That is why they are aiming to teach hard skills like technical design and programming alongside the ability to work with a team, problem solving, and even interpersonal skills like interviewing and networking.

Millions of new jobs will emerge in the technology sector: data analysts, machine-learning specialists, software and application developers, new-technology specialists, and Kenzie is taking the lead to make people job-ready.



The fastest-growing occupation in America



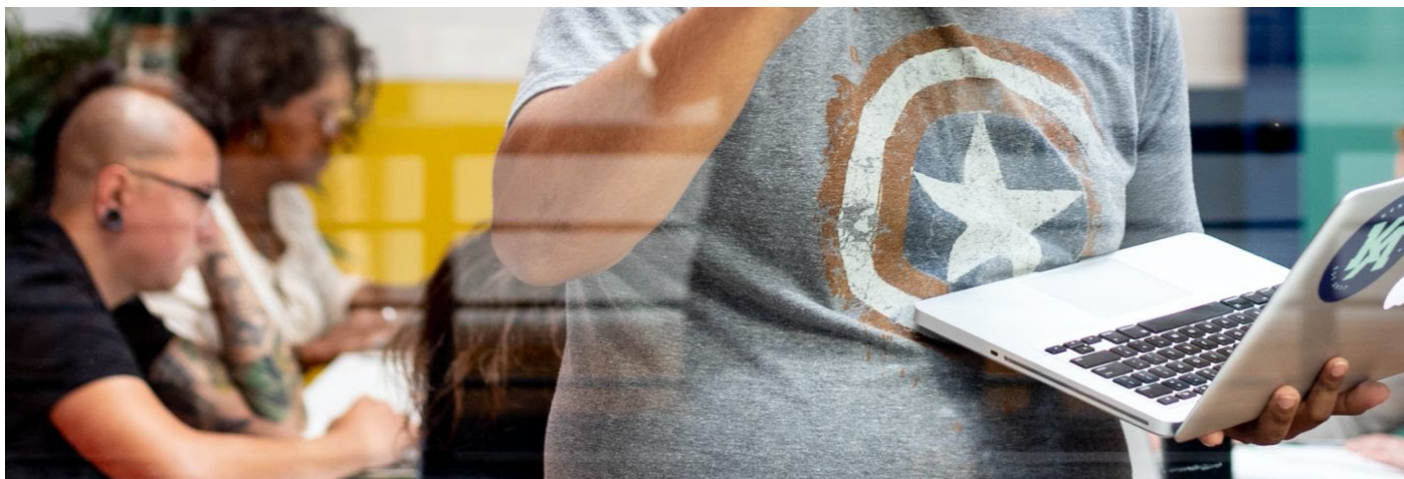


Photo: Kenzie Academy

Software developers are already enjoying the windfall of the Fourth Industrial Revolution. The Bureau of Labor Statistics projects software development to be among the United States' **fastest-growing occupations from 2018–28**, increasing at the "much faster than average" rate of **21 percent**. In 2018, that demand translated to a median wage of **\$105,590 per year** (or \$50.77 per hour).

Kenzie Academy, a campus-based and online software and UX engineering school, focuses its educational model on software development and UX design to prepare its students for that future. Co-founder and CEO Chok Ooi explains the school's philosophy: "Students learn by building projects and solving problems daily under the guidance of industry practitioners. We teach technical skills along with workplace skills like problem-solving, critical thinking, and team collaboration which are equally important for students to master."

Notice the overlap of both hard and soft skills that match the World Economic Forum's analysis. Kenzie teaches students the technical skills and the soft, human skills that are not reproducible in the digital space. Both are essential to the 21st-century marketplace and thriving in a world community bound by shared, interconnected technology.

"It's not just a skill; it's a new language that controls a majority of our world and knowing it will give you opportunities to work in new fields and be ready for the future of work. It is a language that transcends borders and can allow people to work with organizations around the world," says Steven Miller, team member at Kenzie Academy.

Speeding up adaptation

The solution seems easy enough: adaptation. If the skillsets of the current workforce are no longer marketable, we need to develop ways to build new ones or upskill old ones. Were it so simple. Unfortunately, many social and economic barriers impose themselves between large portions of the population and the education and networks necessary for entry into

these occupations.

"Our current education system adapts to change too slowly and operates too ineffectively for this new world," Stephane Kasriel, former CEO of Upwork, writes in [an article for the World Economic Forum](#).

Kasriel argues that our education system must be overhauled to meet the future's challenges. It should be a lifelong pursuit, one accessible to citizens regardless of social and economic status. It should also be rewired to equip people with the "meta-skills" machines aren't good at yet, like entrepreneurship, teamwork, and curiosity—not designed toward rote memorization of facts on a test.

He adds: "Skills, not college pedigree, will be what matters for the future workforce—so while we should make sure college is affordable, we should also make sure higher education is still worth the cost, or revisit it entirely and leverage more progressive approaches to skills training. Skills-focused vocational programmes, as well as other ways to climb the skill ladder (such as apprenticeships), should be widely accessible and affordable."

Rethinking student debt

Another barrier is financial. Few people can afford to pay for a bachelor's degree and those who can't take on immense debt to try. This leads to an untenable pattern where the debt, not the learning, becomes the lifelong pursuit.

[Kenzie Academy's](#) solution is a unique income share agreement that doesn't force students to repay their tuition fees until they earn a baseline of \$40,000 a year. When they begin, they repay 13 percent of income for up to four years. The school also secured \$100 million in financing to help further reduce the financial burden.

"There are millions of Americans who are barred from high-quality post-secondary education because of where they live and their financial situation. And many who are 'lucky enough' to go to college find themselves buried in debt and without a job," said Ooi in [a release announcing the funding](#). "This \$100 million will level the playing field, enabling deserving individuals, regardless of their background, to access high-quality training that leads to a high paying job in tech for only \$100 upfront."

Is the future secure?

emerging
roles,
global



Top 10 Emerging

1. Data Analysts and Scientists
2. AI and Machine Learning Specialists
3. General and Operations Managers
4. Software and Applications Developers and Analysts
5. Sales and Marketing Professionals



The jobs landscape in 2022.

Source: Future of Jobs Report 2018, World Economic Forum

Will software development and other emerging jobs one day go the way of log drivers and lamplighters? Will Silicon Valley become tomorrow's Rust Belt? While possible, that future is incredibly unlikely or, at the very least, far off.

In a [2013 study out of Oxford University](#), researchers used a Gaussian process classifier to estimate the probability that occupations could be computerized. The researchers assigned a probability for 702 jobs. The probability that software development would be computerized was 4.2 percent. The top 10 emerging jobs roles [listed by the World Economic Forum](#) in its *Future of Jobs Report: 2018* held similarly low probability. (For the record, the researchers found that occupations such as telemarketers, insurance underwriters, and mathematical technicians all faced a 99 percent probability of computerization.)

Because of their proximity, artificial intelligence and programming jobs are certainly interconnected. Despite this, the trend today is for [A.I.-powered tools](#) to take on programming's busywork, leaving the programmer the time to solve novel and complex problems in creative ways.

Of course, no one can divine the future. Some paradigm shift may one day invent an app that's better at being human than, well, humans. Until then, the future of work looks to value the very skills that make us human—and some technical know-how too.

Ready to learn the skills needed for the future of work? Click here to learn more:
[Kenzie.Academy](#)