Upskilling Nations Through Education Technology

Udacity's Global Findings & Success Stories

Asia Development Bank Knowledge Sharing | Webinar

Virtual | April 2021

U UDACITY

ADB
ASIAN DEVELOPMENT BANK

Agenda

Agenda

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OR www.menti.com and use the code 2038 9177

Agenda

Around 1 billion individuals could be displaced by automation and need to find new jobs by 2030 around the world

The Rising Skills Gap

~ 1B jobs will be lost due to AI/ML and automation by 2030

375M people will need to change their jobs over the next 10 years

$1.4T will be spent on digital transformation; ~17% CAGR next 5 years

'Talent Shortage' ranked #1 risk to organizational change

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'Talent Shortage' ranked #1 risk to organizational change.

COVID accelerates these trends 5-10 years!

Learners are globally resorting to online skilling today, in efforts of overcoming the skills shift of tomorrow

Skill gap of workers transitioning into job cluster
0 is full gap, 1 is no gap

A RISING SKILLS GAP

Artificial Intelligence
Natural Language
Signal Processing
Data Science
Cloud Computing
Scientific Computing
Data Storage
Development Tools
Computer Networking
Info Mngmt
Customer Experience
Advertising
Product Marketing

0.00   0.25   0.50   0.75   1.00
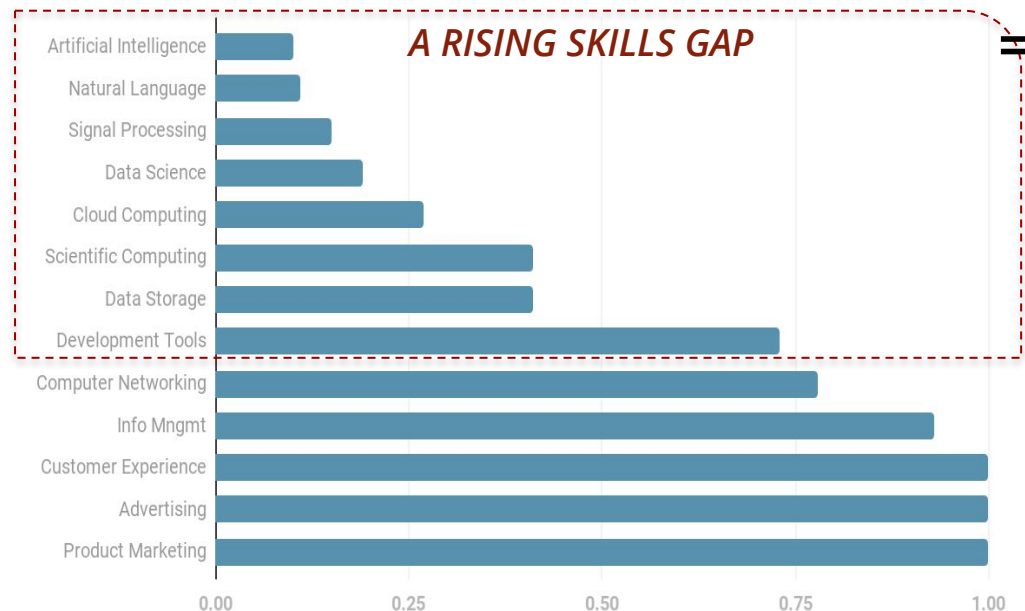
AN UPSKILLING OPPORTUNITY

4x
Increase in indiv. seeking out opportunities for *learning online through their own initiative*

5x
Increase in *employer provision of online* learning opportunities to their workers

9x
Increase in enrolled learners accessing *online learning through government programs*

Source: WEF Future of Jobs 2020

EMPLOYER

Around **80-85%** of companies worldwide expect key emerging tech incl. **Cloud Computing, Big Data Analytics, IoT,** & **AI** to impact their business and likely to require adoption by 2025

Global employers expect **40% of workers** to **require reskilling** within 6 months or less, and **94% of business leaders** expect employees to pick up new skills on the job

YOUTH

61% of youth globally believe that their current positions will be greatly affected by technology change or globalization

63% of global youth view self-directed & online methods of learning to be more effective than conventional methods (educ. institutions, conferences, etc.)

Opportunities and need for upskilling is also very relevant in Asia

60 % of the World's youth population lives in Asia-Pacific region, this translates to **750 million people**

14 % of Asia-Pacific youth were **unemployed** in 2020, which is higher than the global estimate of 13.7 per cent

20 % of Asian youth believe their current skills will last for another 5-10 years before they need to be **re-trained**

54 % of Asian youth believe they must consistently **upgrade** their skills

Asian governments, similar to other regions, still face key challenges to upskilling

1

LIMITED AWARENESS OF URGENCY OF UPSKILLING

A large barrier to skills development in Asia is building awareness of the future of jobs and the resulting need for skilling
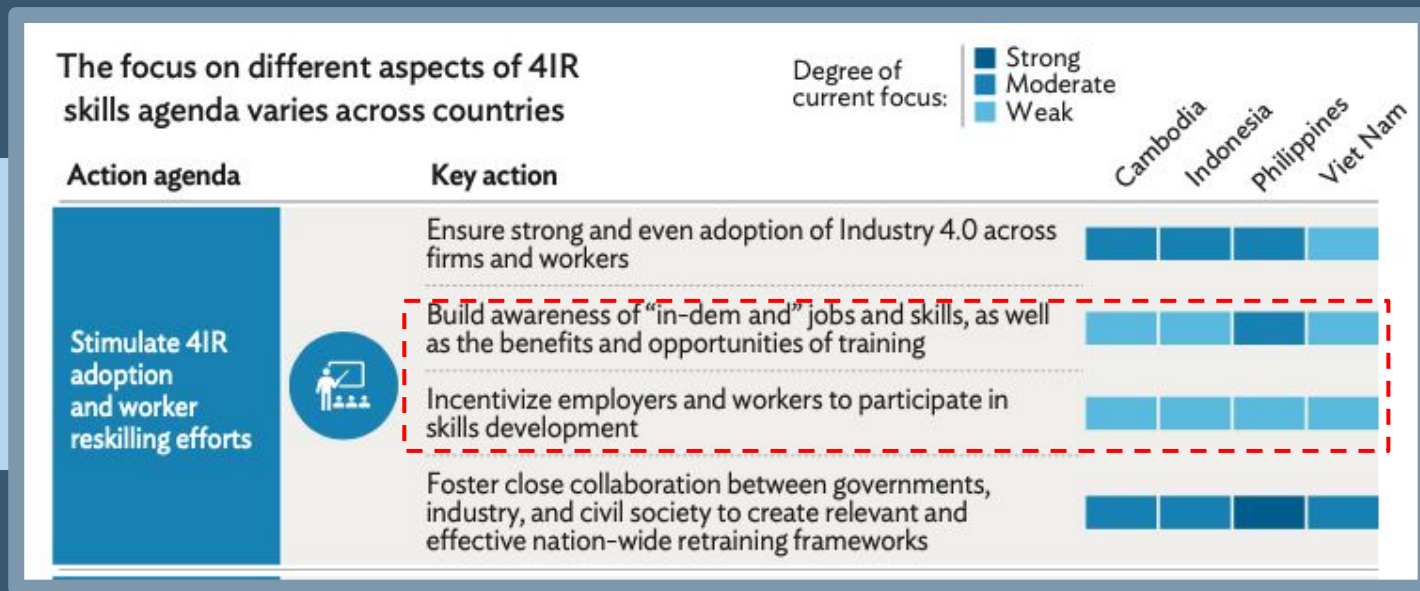
2

DEMAND-SUPPLY SKILLS MISMATCH

Asian employers are experiencing a talent shortage, fueled by lack of graduate preparedness for the current & emerging job market

3

LIMITED LEARNING OPPORTUNITIES

Current focus of policy makers in Asia are on providing education primarily in K-12 and universities, offering limited access to lifelong learning

Challenge 1: Limited Awareness of Urgency of Upskilling

The focus on different aspects of 4IR skills agenda varies across countries

Degree of current focus:
- Strong
- Moderate
- Weak

Action agenda	Key action	Cambodia	Indonesia	Philippines	Viet Nam
Stimulate 4IR adoption and worker reskilling efforts	Ensure strong and even adoption of Industry 4.0 across firms and workers				
	Build awareness of "in-dem and" jobs and skills, as well as the benefits and opportunities of training				
	Incentivize employers and workers to participate in skills development				
	Foster close collaboration between governments, industry, and civil society to create relevant and effective nation-wide retraining frameworks				

Challenge 2: Demand-Supply Skills Mismatch

Percent of survey respondents who agree or strongly agree with the following statements (%)

	Cambodia		Indonesia		Philippines		Viet Nam	
	Training institutions	Employers	Training institutions	Employers	Training institutions	Employers	Training institutions	Employers
Graduates are adequately prepared for entry-level positions	59	11	96	32	90	55	80	38
Graduates have the appropriate "general" skills	78	8	92	39	90	57	80	53
Graduates have the appropriate "job-specific" skills	65	13	92	31	88	59	78	59

ASEAN employers perceive graduates to be unprepared for required labor market skills

Challenge 3: Limited Learning Opportunities

"More than 758 million adults are still illiterate globally, with 63% of these adults living in Asia. Less priority is given to adult learning and non-formal education sector, with nearly half of countries worldwide still spend **less than 1% of their public education budget** on adult learning."

The whole approach to education needs to shift to lifelong learning all the way through adulthood.

Required Capabilities for governments: Three-Fold

1

Applied Learning

Governments must ensure applied learning methods that will result in practitioner-level skills to avoid employers' talent shortage and adapt to emerging technologies in an effective, sustainable manner

2

Implementation Capabilities

Skilling program leaders will be able to scale their solution and offer modules to wider learner audiences if dynamic, end-to-end capabilities are acquired, typically done through robust partnerships

3

Lifelong Learning

Lifelong learning is a critical success factor for effective up-skilling programs, driven by a comprehensive platform with in-demand content and digitally available for urban & rural areas alike

Agenda

What is our Mission?

*To **train** the **world's workforce** in the careers of the future.*

Udacity at a Glance

10,000,000+ learners across **160+** countries

100,000+ Nanodegree certificates granted

100+ enterprise customers, ~**45%** Global 2000

9 government partnerships

1,300+ Mentors

UDACITY

Udacity **ONLY** cost-effective way to deliver **practitioner-level skills** at mass scale

	MOOCs	Bootcamps	University		U
Skill level	Shallow	Practitioner	Theoretical. Sometimes Practitioner		Practitioner
Graduation / Student Experience	Low	High	High		High
Scalability	High (Asynchronous, online)	Low (Synchronous, on premises)	Low (Synchronous, on premises)		High (Asynchronous, online)
Cost	>USD 100	USD 10-20K	USD 100K		~ USD 3K per ND

UDACITY

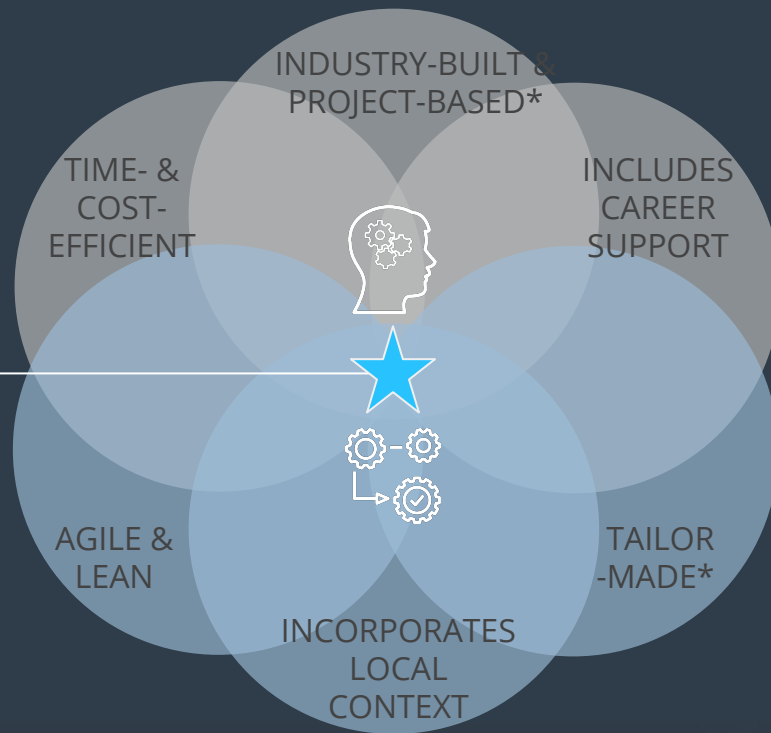# UDACITY FOR GOVERNMENT SOLUTION
THE RECIPE FOR SUCCESS

Udacity learning product qualities
Udacity delivery qualities

Udacity provides an **end-to-end solution for any organization looking to create a tech-competitive advantage for a targeted population** using the recipe for success on a learning product and delivery mechanism level

INDUSTRY-BUILT & PROJECT-BASED*

INCLUDES CAREER SUPPORT

TIME- & COST-EFFICIENT

AGILE & LEAN

TAILOR-MADE*

INCORPORATES LOCAL CONTEXT

UDACITY

What is a Nanodegree Program?

> A **3-6 months** long **learning program** that builds **real technical skills** in about 10 hours per week

> Every program consists of **multiple modules** that deliver engaging learning content in the form of **video text quizzes** and **exercises**

> Each module includes a **practical project** where students apply and demonstrate their skills in a **real world context**

> **Expert reviewers** check all student projects and give **individual feedback** to further the learning

> Throughout the program, students are **supported** by Udacity

Get Real Employable Skills

Learn by doing with **real-world projects** and other **hands-on exercises** that lead to real skills mastery.

UDACITY

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U UDACITY

Top-tier industry partners

Curriculum designed with **industry leaders.** Aligns nanodegree content with high-impact skills that top companies want. Curriculum owned by Udacity.

amazon

AT&T

BMW

facebook

GitHub

Google

IBM **Watson**®

(intel)

lyft

Mercedes-Benz

NVIDIA

UBER ATG

kaggle

figure eight

MODE

UDACITY

Global marketplace of experts

Enables quick and actionable feedback on a scalable platform.

- 1,300 experienced mentors worldwide

- Line-by-line code review (<3 hrs)

- Help w/ coding questions (<1 hr)

UDACITY

Learn on your schedule

Self-paced learning - **whenever and wherever** you want. Graduate while learning part-time for 10 hrs/week.

U UDACITY

The Nanodegree Program

We offer 50+ Nanodegrees in 7 schools:

| Data Science | Artificial Intelligence | Business | Autonomous Systems | Programming & Development | Cloud | Cyber Security |

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How do we work with governments?
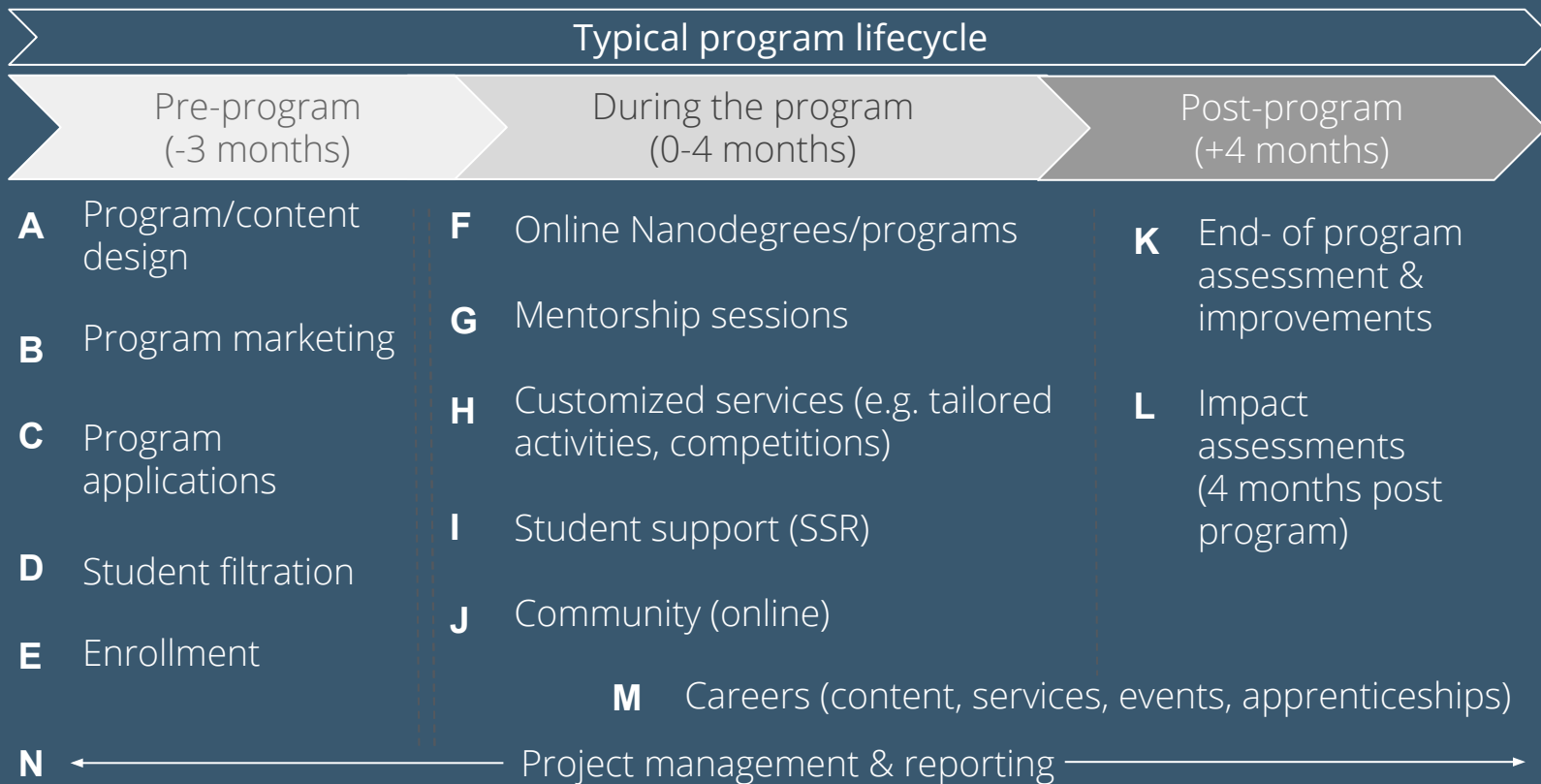
Typical program lifecycle

Pre-program (-3 months)	During the program (0-4 months)	Post-program (+4 months)

A Program/content design

B Program marketing

C Program applications

D Student filtration

E Enrollment

F Online Nanodegrees/programs

G Mentorship sessions

H Customized services (e.g. tailored activities, competitions)

I Student support (SSR)

J Community (online)

K End- of program assessment & improvements

L Impact assessments (4 months post program)

M Careers (content, services, events, apprenticeships)

N Project management & reporting

Agenda

Learner success story

Tony Boswell
Kansas City, MO

Google

anthology

BEFORE

For 14 years prior to earning his Nanodegree, Tony worked as a trucker.

"The challenge of going back to school at 48 years old, and trying to start a new career in a new industry… well, it was terrifying."

AFTER

Received a scholarship for Front End Web Developer nanodegree from Google.

"Every little achievement I made along the way gave me the confidence I needed to hit the ground running when I graduated."

"If you think coding can't change your life… boy do I have a story to tell you!!"

Government of Egypt Partnership

Udacity and the Government of Egypt partnering to train Egyptian youth on the latest IT technologies to seed emerging tech outsourcing industry.

Phase 1
Egyptian youth recipients (2017)

1,250

Phase 2
Egyptian youth recipients (Jul 18-Jul 19)

2,200

Phase 3
African continent & high schools
(Mar 19-Sep 20)

3,600

Phase 4
National Freelancers (May 20-Dec 21)

25,000
100,000 *enabled*

UDACITY

egypt**fwd** initiative

NEXT TECHNOLOGY LEADERS

Udacity *and the Government of Egypt partnering to train Egyptian youth on the latest IT technologies to seed emerging tech outsourcing industry.*

Partnership Objectives:

Improve the **livelihood of Egyptians at scale** by propelling them into successful **technology careers**

Increase Egypt's **global competitiveness of the tech labor force**

5 Years

Partnership in **5 different programs**

220K

Digitally enabled
Through challenge programs

20K

Nanodegree Certificates

80%+

Graduation rate

74%

Positive career change
37% of which got new jobs

$12.5M

Annual Earning Potential
By self-employment in the first 6 months after graduation

*Target to reach 200mln by end of year

DUBAI FUTURE FOUNDATION
مؤسسة دبي للمستقبل

</10^6>
مبادرة مليون مبرمج عربي
1 MILLION ARAB CODERS INITIATIVE

*Udacity partnered with the Dubai Future Foundation on the **One Million Arab Coders** initiative, with the aim of empowering Arabs with the language of the future. This initiative is split into a 'foundational course' challenge phase and a Nanodegree phase. This initiative has spun off into specific country chapters as well including the "One Million Jordanian Coders" initiative, with other chapters in the plans.*

FOCUS ON
ANDROID, WEB DEV & DATA
TRAINING

100% ONLINE
SELF-LEARNING MODEL

FOUNDATIONAL COURSE PHASE*

1.2M+
ENROLLEES
ACHIEVED

171K+
CERTIFICATIONS
TO DATE

NANODEGREE PHASE

~2K
SCHOLARS
ENROLLED to
date

60%+
GRADUATION
RATE

*Top students from the foundational course phase are selected for a Nanodegree scholarship

MISK ACADEMY
أكاديمية مسك

Udacity in partnership with Misk Academy, aims to build the knowledge and skills needed to work in the technology field amongst youth from the Kingdom of Saudi Arabia through scholarships.

8,756 Phase 1 & 2 SCHOLARSHIP RECIPIENTS

5,600+ Phase 3 SCHOLARSHIP RECIPIENTS TO DATE

13 BEGINNER TO ADVANCED PROGRAMS OFFERED

~75% HIGHEST GRADUATION RATE TO DATE

5,500+ **GRADUATES TO DATE**

65% POSITIVE CAREER CHANGE
31% of which got new jobs

+55% GRADUATES ARE FEMALE

Udacity partnered with Misk Foundation on the Future Seekers Challenge, a program exclusively designed for the Saudi context, offering a unique experience to accelerate the Kingdom's digital transformation by equipping 100,000 Saudi learners with diverse skills for the future of work.

FOCUS ON TRAINING FOR
THE FUTURE OF WORK

100% ONLINE
SELF-LEARNING MODEL

Phase I (100k learners, ~4 weeks):
- The state of the future of work + Saudi industry case examples
- Remote work & freelancing content
- Technical fundamentals in Digital Marketing, Business Analytics, AI for Business Leaders, Product Management

FOUNDATIONAL COURSE PHASE*
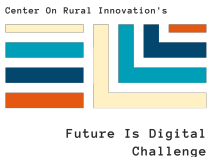
54K+
ENROLLEES SO FAR
(with the aim to reach 1M)

4K+
CERTIFICATIONS TO DATE

*Top students from the foundational course phase are selected for a Nanodegree Program scholarship (Phase II)

CORI's The Future is Digital Challenge (USA) Part 1/2

Center on Rural Innovation and Udacity's Future is Digital Challenge - an initiative dedicated to tech upskilling and ensuring residents in small towns and rural communities are equipped to participate in the 21st-century digital economy. Participants will have the opportunity to build skills in high demand digital jobs

700 **FOUNDATIONAL COURSE** SCHOLARSHIPS TO RESIDENTS IN RURAL COMMUNITIES

108 **NANODEGREE PROGRAM SCHOLARSHIPS** FOR TOP PERFORMERS FROM RURAL AREAS

14 **RURAL COMMUNITIES PARTICIPATING** IN PILOT *(via outreach & career enablement)*

FOCUS ON
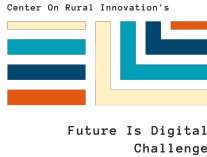**DIGITAL MARKETING, WEB DEVELOPMENT & BUSINESS ANALYTICS**
TRAINING

COMMUNITY
ENGAGED ONLINE COMMUNITY ACROSS BOTH PHASES

Program marketing page: https://ruralinnovation.us/the-future-is-digital-challenge/

CORI's The Future is Digital Challenge (USA) Part 2/2

Center on Rural Innovation and Udacity's Future is Digital Challenge - an initiative dedicated to tech upskilling and ensuring residents in small towns and rural communities are equipped to participate in the 21st-century digital economy. Participants will have the opportunity to build skills in high demand digital jobs

Digital graduates are sharing their gratitude and excitement for the opportunity

" I am extremely grateful to CORI, Ignite Emporia, and Udacity for the opportunity to **get valuable skills training needed to help my Kansas community** move forward into the digital future.The compact program was a **perfect fit for a working individual**. The Udacity team was **amazingly supportive**...**would highly recommend the Nanodegree to anyone**!" *~Denise, Emporia*

" **The project-based format was practical** and more useful than testing to graduate. The part that separates it from others is the **community support. Having mentors available via email, text, and Slack**." *~Eren, Durango*

" I really loved learning through the Udacity format. The **support and encouragement made all the difference**. [My tutor] helped whenever I needed some clarification or had a question...I am so happy I stayed with it. The program is amazing, and **the support really sets it apart**." *~Trine, Traverse City*

" I liked the **fast pace and the structure of the course**...fantastic program, **great support from the Udacity team**" *~ Alexandra, Springfield*

Program marketing page: https://ruralinnovation.us/the-future-is-digital-challenge/

Questions & Answers