



# **AWS Educate: Addressing the Grand Cloud Workforce Opportunity**

**Christina Cole, AWS Educate EMEA Lead**

# Cloud and the 4<sup>th</sup> industrial revolution

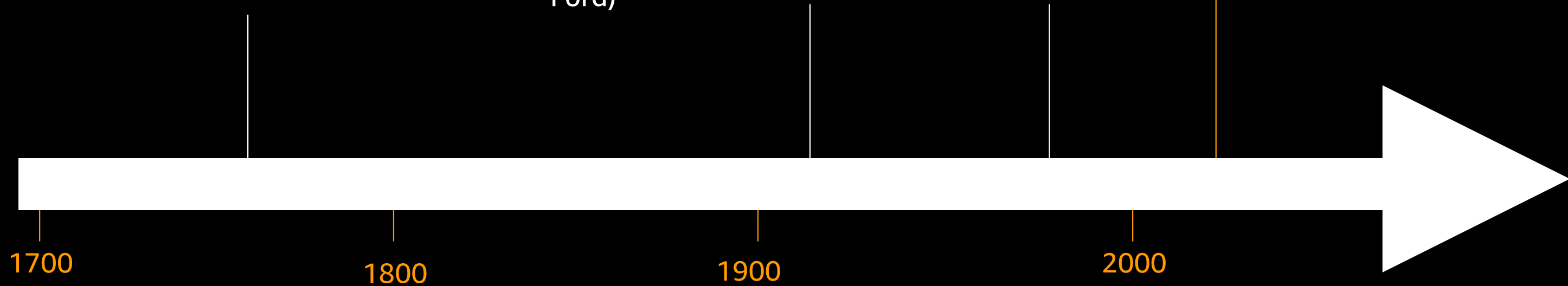
## Mechanization of Textile Industry:

- 1764 Spinning Jenny and 1768 Water Frame
- Birth of the Factory

Assembly Line and Mass Production (1913, with Henry Ford)

Personal Computer and Internet (1980s/90s)

**The Cloud and IoT, Robotics, Machine Learning, etc**



... dramatic growth of AWS ...

**\$30b** yearly run rate

**+45%** YOY growth rate

“Cloud Computing” has been the #1  
LinkedIn skill for three years in a row<sup>1</sup>

# And millions of jobs in the Cloud!

Average AWS Certification Salary<sup>2</sup>:

AWS Certified Developer, Associate: \$138k

AWS Certified Solutions Architect, Associate:  
\$115k

AWS Certified SysOps Admin, Associate: \$108k

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<sup>1</sup> <https://blog.linkedin.com/2016/10/20/top-skills-2016-week-of-learning-linkedin>

<sup>2</sup> [Global Knowledge 2016 IT Skills and Salary Report](#)



# PROBLEM: We can't fill the demand for these jobs

- McKinsey's landmark study around **mid-to-high skill job gap**
- Time to hire **increased 80%** from 2009 to 2015
- Shift toward "**higher-skilled, less routine positions requiring judgment and technical skills**"



# What is AWS Doing to Address the Skills Gap?



Teaching Tomorrow's Cloud Workforce Today

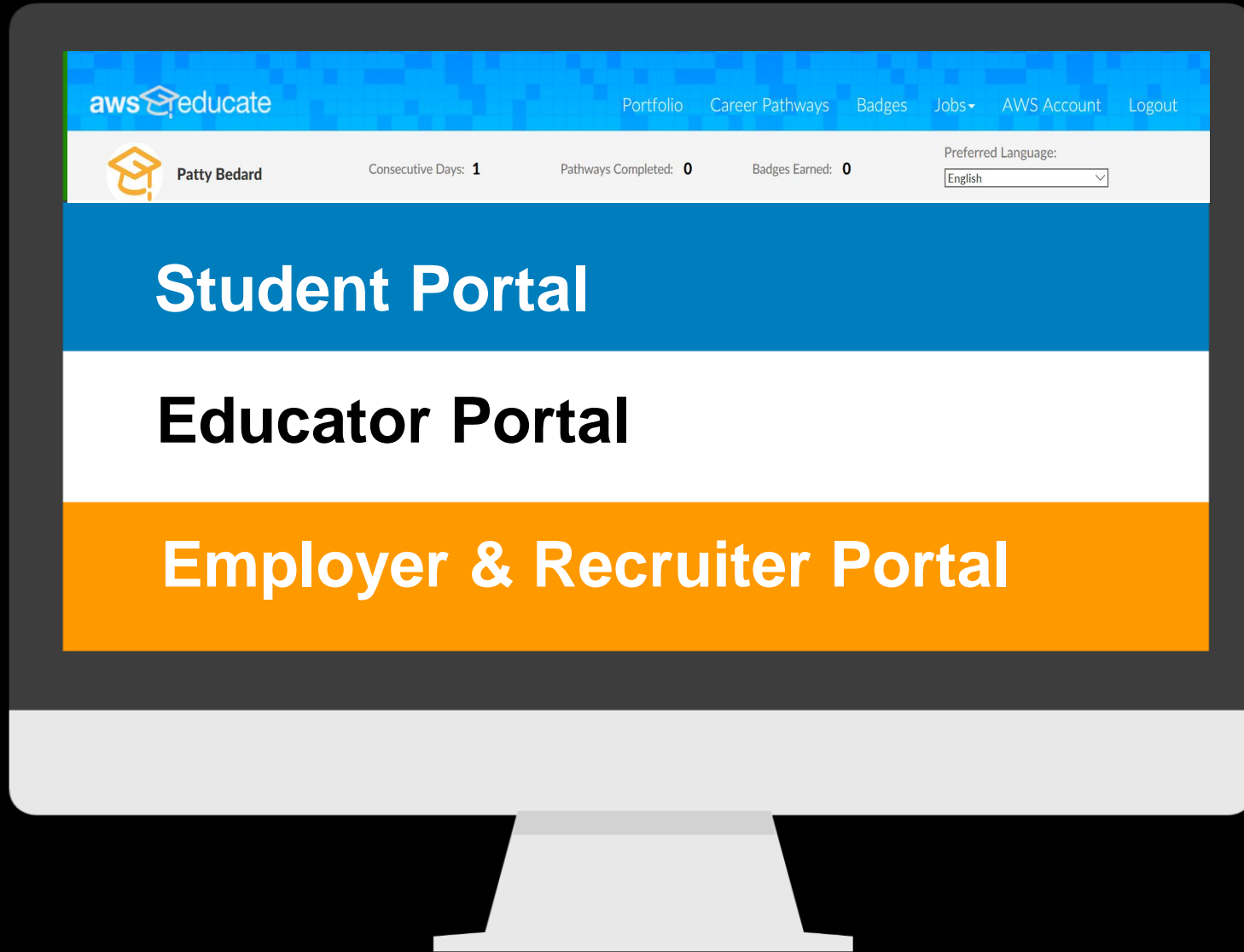




Teaching Tomorrow's Cloud Workforce Today



# AWS Educate Value Proposition



Open Course Content



Grants for Free Access to AWS



Communities of Collaboration



Micro – Credentials



Professional Development



Job & Internships

# Free access to AWS

- In addition to free learning & teaching content, students and educators get free access to the AWS console
- Students receive up to \$100, Educators up to \$200 when they sign up
- Educators can request more credits free of charge at any point.

	Educators	Students
<b>AWS Credits (annually renewable)</b>	<ul style="list-style-type: none"><li>• \$200 in AWS credits per educator – at member institutions</li><li>• \$75 in AWS credits per educator – at non-member institutions</li></ul>	<ul style="list-style-type: none"><li>• AWS Account: \$100 in AWS credits per student at member institutions; \$40 in credits at non-member institutions</li><li>• AWS Educate Starter Account: \$75 in AWS credits at member institutions; \$30 in AWS credits at non-member institutions</li></ul>

# AWS Educate Career Pathways

aws educate

Portfolio Career Pathways Badges Jobs AWS Account Logout

Morgan Grimes Consecutive Days: 1 Pathways Completed: 0 Badges Earned: 0 Preferred Language: English

## Explore Cloud Career Pathways

Explore AWS Educate's Cloud Career Pathways to start building the key cloud skills you'll need to be successful in leading... Earn a completion credit that counts toward your degree. Collaborate with prospective employers to gain hands-on experience with prospective employers.

- Cloud Computing 101
- Application Developer
- Cloud Support Associate
- Cloud Support Engineer
- Cybersecurity Specialist
- Data Integration Specialist
- Data Scientist
- DevOps Engineer
- Machine Learning
- Software Dev Engineer
- Solutions Architect
- Web Dev Engineer

## Machine Learning Scientist

Machine Learning Scientists create the products of the future. They collaborate with subject matter experts, design algorithms, and develop predictive data models that result in new features and enhancements that delight customers.

If you have a passion for diving deep into data and software development and want to shape the customer experiences of tomorrow, get started with the Machine Learning Scientist Pathway today.

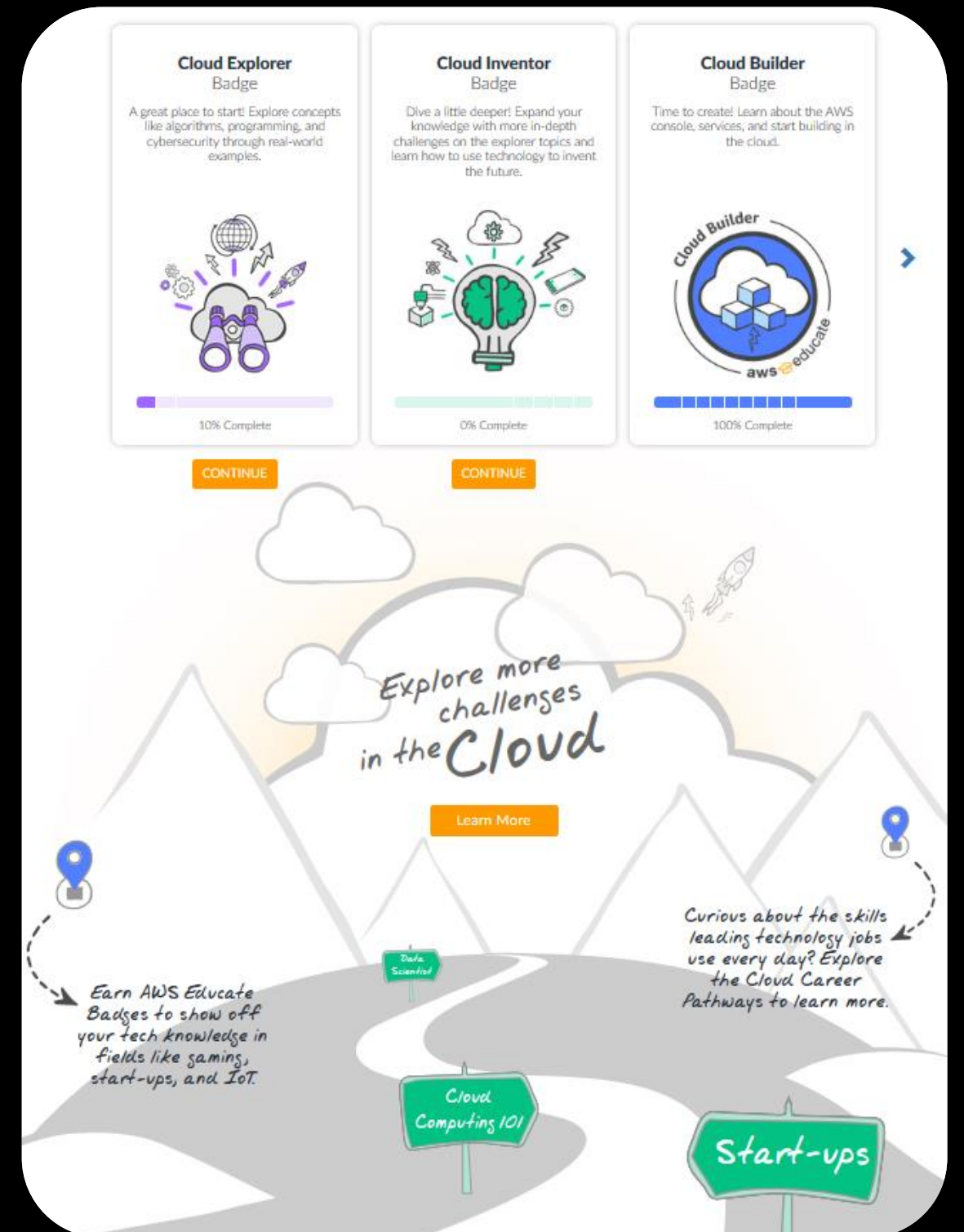
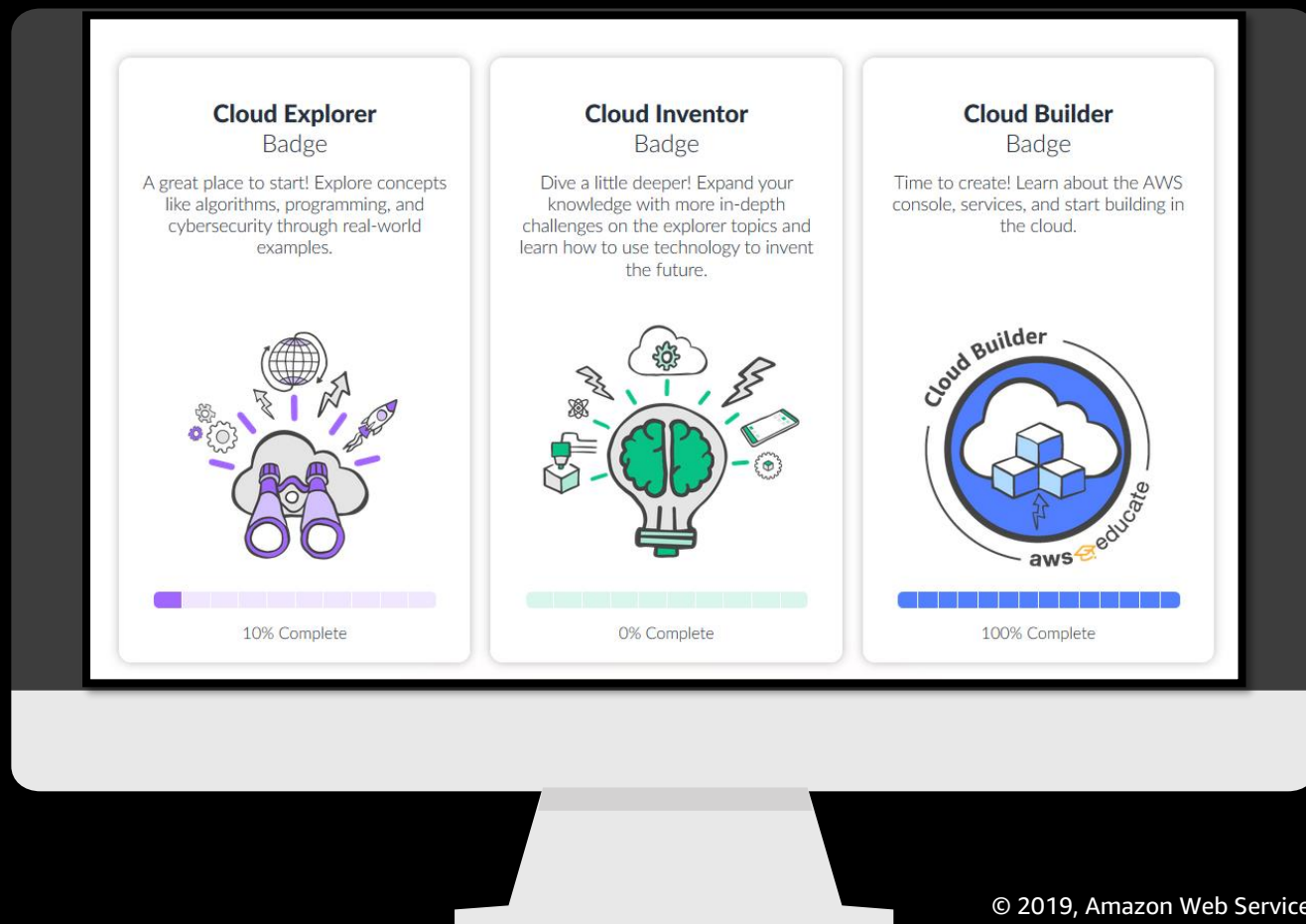
- Skills to Succeed**  
Learn about the diverse knowledge and skills Machine Learning Scientists use every day, including distributed systems, programming and scripting, and data analytics.
- 25 Hours of Learning**  
With a mix of videos, papers, labs, quizzes, and a final project, explore the skills you'll need in the way you prefer, and at your own pace.
- Prepare for the Future**  
Machine Learning Scientists have degrees in fields like Computer Science or Applied Mathematics, along with demonstrated experience in the skills included in this pathway.  
Check out our job board to learn more about machine learning roles available. [Click here.](#)

SEE MORE

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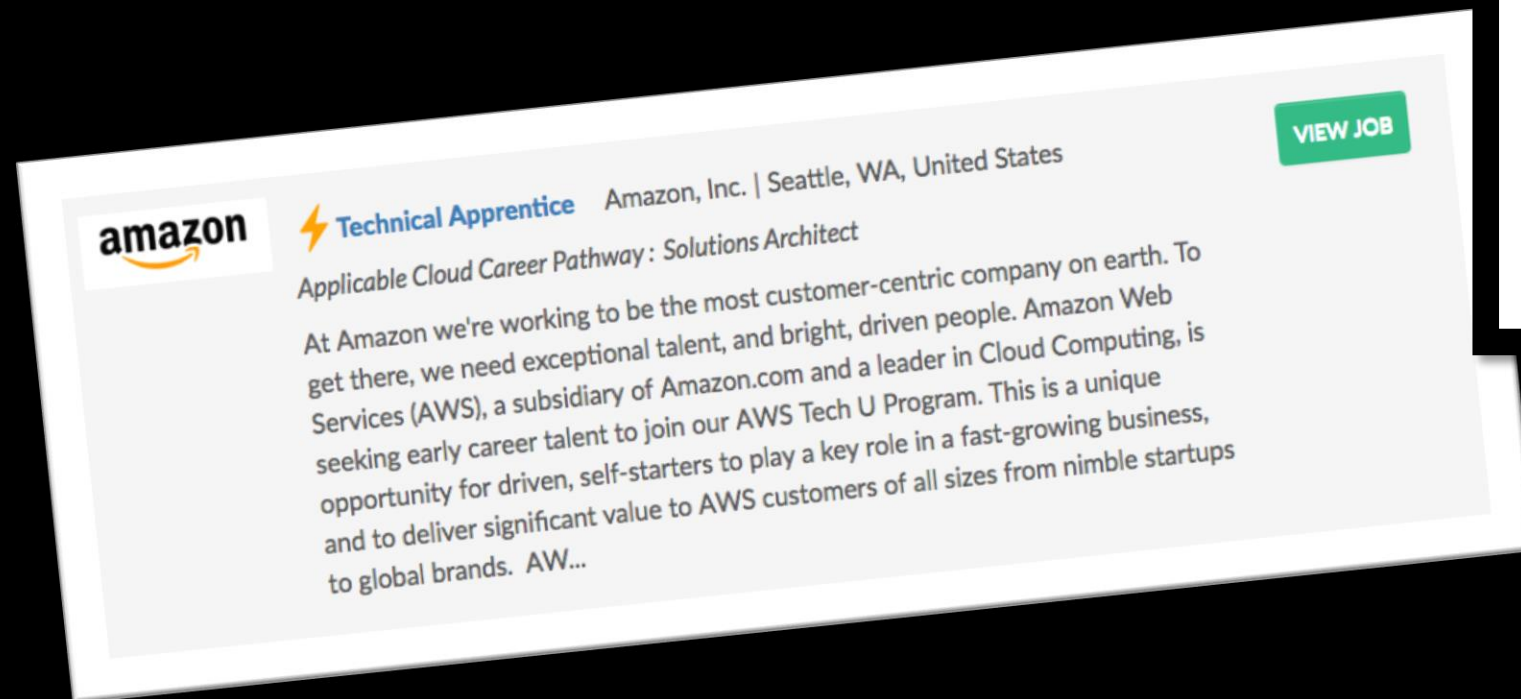
# K-12 Program

- 3 new cloud badges for students 14 – 17
- Dynamic navigational experience
- Teacher access to guides which map to core computer science principles



# AWS Educate Interview Accelerator

- Job Board feature to accelerate candidates to a cloud job
- Amazon, customers and APN members have access
- Amazon & StakArmor pledge first
- Global Expansion



**amazon** **Technical Apprentice** Amazon, Inc. | Seattle, WA, United States **VIEW JOB**

Applicable Cloud Career Pathway: Solutions Architect

At Amazon we're working to be the most customer-centric company on earth. To get there, we need exceptional talent, and bright, driven people. Amazon Web Services (AWS), a subsidiary of Amazon.com and a leader in Cloud Computing, is seeking early career talent to join our AWS Tech U Program. This is a unique opportunity for driven, self-starters to play a key role in a fast-growing business, and to deliver significant value to AWS customers of all sizes from nimble startups to global brands. AW...



**AWS Education** @AWS\_edu **Follow**

**#AWSEducate** Members: Now access enhanced job board features & the new AWS Educate Interview Accelerator to speed your way to a cloud job. [amzn.to/2P5Jf3Y](https://amzn.to/2P5Jf3Y)



**Gadgets 360** @Gadgets360 · 10h

Amazon Web Services to Help Skilled Students Find Cloud Computing Jobs

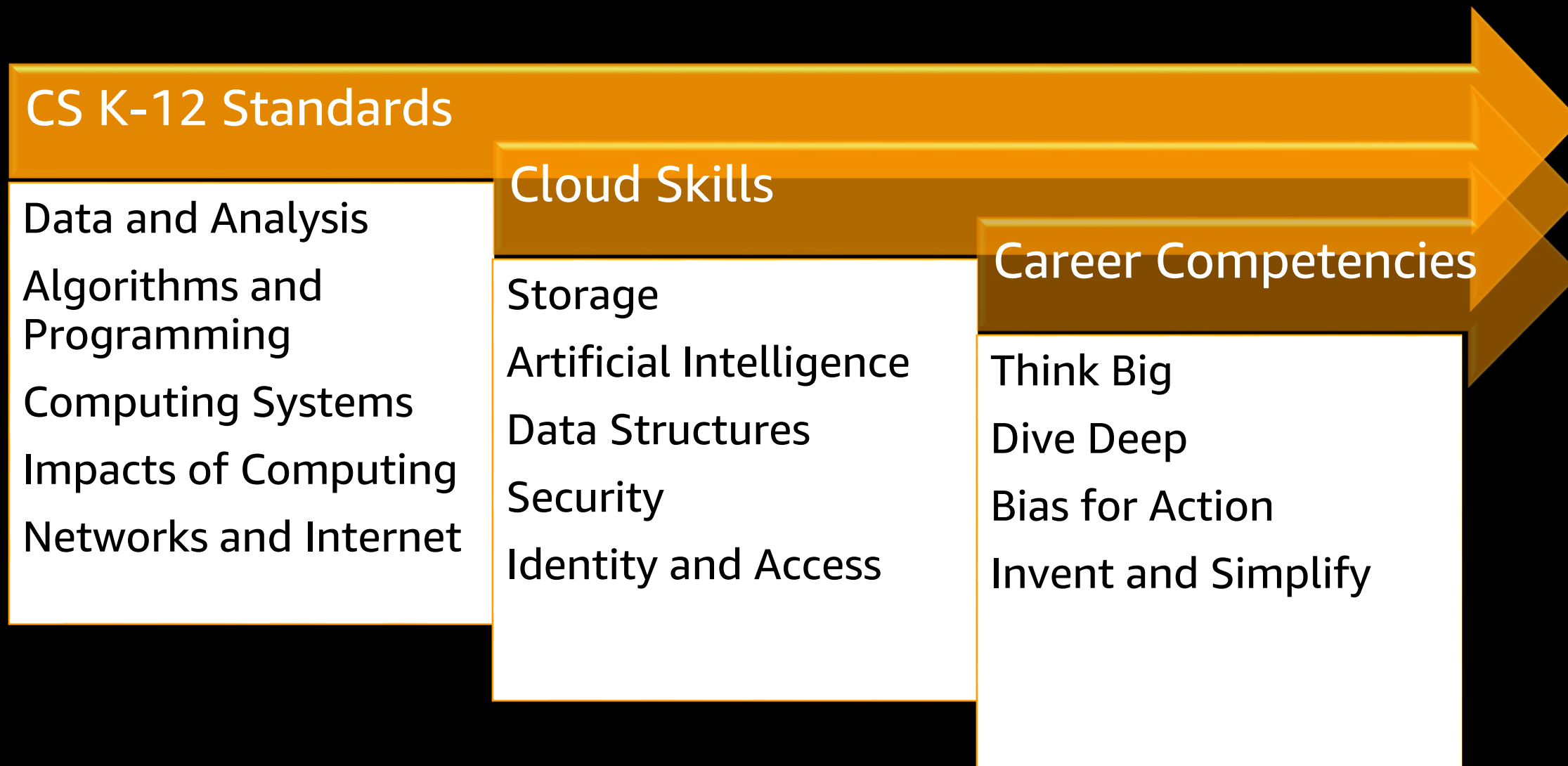


**Amazon Web Services to Help Skilled Students Find Cloud Computin...**

Amazon Web Services (AWS) has decided to go beyond providing training and certification to now help students grab relevant openings in cloud.


[gadgets.ndtv.com](https://gadgets.ndtv.com)

# Knowledge Continuum



# AWS Educate Classrooms

- Capped environment
- Access to AWS Services with pre-loaded credit
- Educator monitored

 Request or go to an AWS Educate Classroom

Request or access your AWS Educate Classrooms. Follow a simple 3-step process to get started and provide your students with free and easy access to the AWS Console for homework, labs, and projects.

### 1 Select Classroom Template (maximum 3)

**AWS Cloud Basics**  
Services enabled: EC2, S3, RDS

Use the AWS Cloud Basics to introduce students to fundamentals of AWS and to cloud computing concepts. Student can get their first Linux instance up in the cloud with EC2, store and access file to create a static web site using S3, create and operate their first database using RDS, and learn about security and access control with IAM.

**Big Data**  
Services enabled: EC2, Athena, DynamoDB, EMR, Glue, RDS, S3

Teach big data applications such as clickstream analytics, fraud detection, recommendation engines, event-driven ETL, and internet-of-things processing with the Big Data template. Easily provision EMR clusters for Hadoop, Spark, and other big data learning. Learn SQL vs NOSQL using RDS and DynamoDB.

**Machine Learning and AI**  
Services enabled: Machine Learning, Rekognition, Lex, Polly, Comprehend, Translate, Transcribe, SageMaker, DeepLens, Personalize, Forecast, Robomaker

Build a chatbot, access voice services with Lex and Polly, use image Rekognition, or use sophisticated machine learning models tools like MXNet and Tensor flow to create general predictions with the Machine Learning template. Use deeplens camera with deeplens service, or try out new AI services such as [Read more](#)

**Building Scalable Websites**  
Services enabled: EC2, S3, RDS, ELB

Introduce students to building and hosting scalable, elastic websites on AWS. Use EC2 for compute, S3 to store site content, and ELB to dynamically scale based on demand.

**Cloud9**  
Services enabled: Cloud9, S3

Use AWS Cloud9, an Integrated Development Environment (IDE) for writing, running, and debugging code from your web browser. Cloud9 comes prepackaged with essential tools for many popular programming languages (Javascript, Python, PHP, etc.) so you don't have to tinker with installing various compilers and toolchains. You can also use Cloud9 for working with serverless applications. [switch between local and remote](#) [Read more](#)

**Serverless Computing**  
Services enabled: Lambda, API Gateway, S3, DynamoDB

Get students started with serverless computing using lambda on AWS for web applications, backends, and data processing apps. Serverless applications don't require students to provision, scale, and manage any servers and can be built for nearly any type of application or backend service. Everything required to run and scale an application is managed by AWS. [Read more](#)

## AWS Management Console

**AWS services**

**Find Services**  
You can enter names, keywords or acronyms.

**Recently visited services**

- S3
- Amazon SageMaker
- WorkSpaces
- EC2
- Key Management Service

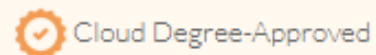
**All services**

- Compute**
  - EC2
  - Lightsail
  - ECS
  - EKS
  - Lambda
- Management & Governance**
  - CloudWatch
  - AWS Auto Scaling
  - CloudFormation
  - CloudTrail
  - Config
  - OpsWorks
- AWS Cost Management**
  - AWS Cost Explorer
  - AWS Budgets
  - AWS Marketplace Subscriptions
- Mobile**
  - AWS Amplify

# New! Cloud Degree Curriculum Repository- on AWS Educate Educator portal

## Cloud Degree Curriculum Repository

Browse downloadable instructional content (e.g. modules, units, lessons, hands-on activities, and assessments) that has been developed by AWS subject matter experts and trusted faculty curriculum developers. Assemble or embed content to "cloudify" existing courses or create new "cloud native" coursework.



All content in this repository has been reviewed, approved, and curated by the AWS Educate Curriculum Development team.

Browse Content

[Clear Filters](#)

Showing 5 of 7 results

1 2 >

Program Type



Certificate

2-Year Degree

4-Year Degree

### Security in Amazon Web Services

SECURITY | Full Course, 45 hours

This course focuses on protecting the confidentiality, integrity and availability of computing systems and data.

Last Updated Apr 2, 2019 | Common Cartridge

 Add to Favorites

 Live Preview



# For our AWS Educate- Trail Blazers AWS Educate Cloud Ambassador Scheme



Cloud  
Ambassador

# Mass demand

**2400+**  
Educational  
Institutions

**Over 200**  
Countries and  
Territories

**Top 10**  
Global Computer  
Science &  
Information  
Systems  
Institutions

QS World University Rankings by Subject 2016 - Computer  
Science & Information Systems

**Half a Million**  
Of Students

**Over 10,000**  
Teachers

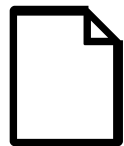
# Sampling of global member schools



# The Cloud Degree

**Cloud Degree Initiative** is a collaboration between AWS Educate & leading educational institutions to develop academic programs mapped to entry-level positions in cloud computing.

**Flexible degree, certificate, or specialization** conferred by member institutions.



Assessment of existing IT courses & **support for curriculum development.**



Faculty training & student access to state-of-the-art cloud tools.



Job Placement – Interview Accelerator





CALIFORNIA  
CLOUD  
WORKFORCE

latimes.com

### Amazon partners with L.A. community colleges for cloud computing program

Ethan Millman

3-4 minutes



Los Angeles Trade Technical College is one of 19 regional community colleges that will offer a cloud computing certificate as part of a partnership with Amazon Web Services. (Glenn Koenig /

10 LOS ANGELES BUSINESS JOURNAL

## Amazon Lends Hand on Cloud Curriculum

School sees potential match between certificate program, high-paying occupation

THE need for a pipeline of workers who understand the ins-and-outs of Amazon.com Inc.'s Web Services—a cloud computer service used to host websites and other applications—appears to be strong based on the reaction to a new course offered at a local community college.

Amazon has partnered with Santa Monica College to help create a Cloud Computing Certificate. Courses are focused on the fundamentals of cloud computing, and filled up within the first day of the program launching this fall, a likely reflection of demand for such skills in the marketplace.

“Amazon Web Services flew in a team from all over the country to help the faculty develop the curriculum,” said Tricia Ramos, dean of workforce and economic development at Santa Monica College. “They obviously need to scale up a workforce in cloud computing.”



Rendering: SpaceX's BFR docking at the International Space Station.

teach the hardware and software requirements to run systems in the cloud, including storage, database management and software systems, as well as cloud security best-practices.

“The value to the students is they are receiv-

regional labor market could have major benefits for both sides of [the] education-industry partnership,” according to a recently released report by the center.

Santa Monica College's Cloud Computing



Cloud Computing Ed

## AWS Dual Enrollment Program Ramps up in California

• By Dian Schaffhauser  
• 08/23/18

A group of community colleges in Southern California is working with Amazon Web Services and its education program to develop college credit courses for a cloud computing career pathway that starts in high school, continues through college and leads to industry certifications. The goal of the "CA Cloud Workforce Consortia" is to expand this regional career pathway program and certificate. The program has already been tested in one of the consortia's pilot schools, and a certificate in cloud-oriented learning is being developed for the program.

OCTOBER 16, 2017

### SILICON BEACH REPORT

GARRETT REIM



equipped with 31 rocket engines and the equivalent cargo space of the double-decker passenger airliner the Airbus A380, will be a cure-all for his obsessive plans to colonize Mars.

“Essentially, we want to make our current vehicles redundant,” Musk explained, during a presentation at International Astronautical Congress, which was held in Adelaide, Australia, Sept. 25-29. “This was really quite a profound realization that if we can build a system that cannibalizes our own products . . . then all the resources—which are quite enormous—used for Falcon 9, Heavy and Dragon can be applied to one system.”

The BFR is scheduled for completion in the early 2020s and would be a do-it-all workhorse for SpaceX, launching satellites into Earth orbit,

College piloted its AWS Educate, High School to offer curriculum and develop a

was so high, from two

and compute Colleges and \$200 education

communities. In return, the leading help in curriculum



# Cloud Associate Degree announced at Public Sector Summit



# Thank You!

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[#AWSEducate](https://twitter.com/AWSEducate)

[cscole@amazon.com](mailto:cscole@amazon.com)