

A background image showing a group of people in a conference setting. In the foreground, three men are engaged in conversation. One man on the left is wearing a dark suit and glasses. The man in the middle is bald, wearing glasses and a pink shirt. The man on the right is wearing a blue and white checkered shirt and glasses. They appear to be looking at something off-camera. In the background, other people are visible, including a woman in a blue suit walking away. The overall atmosphere is professional and collaborative.

# 2018 Open edX conference

May 29–31, 2018

## **Building a scalable, blockchain-enabled multi- site skills network**

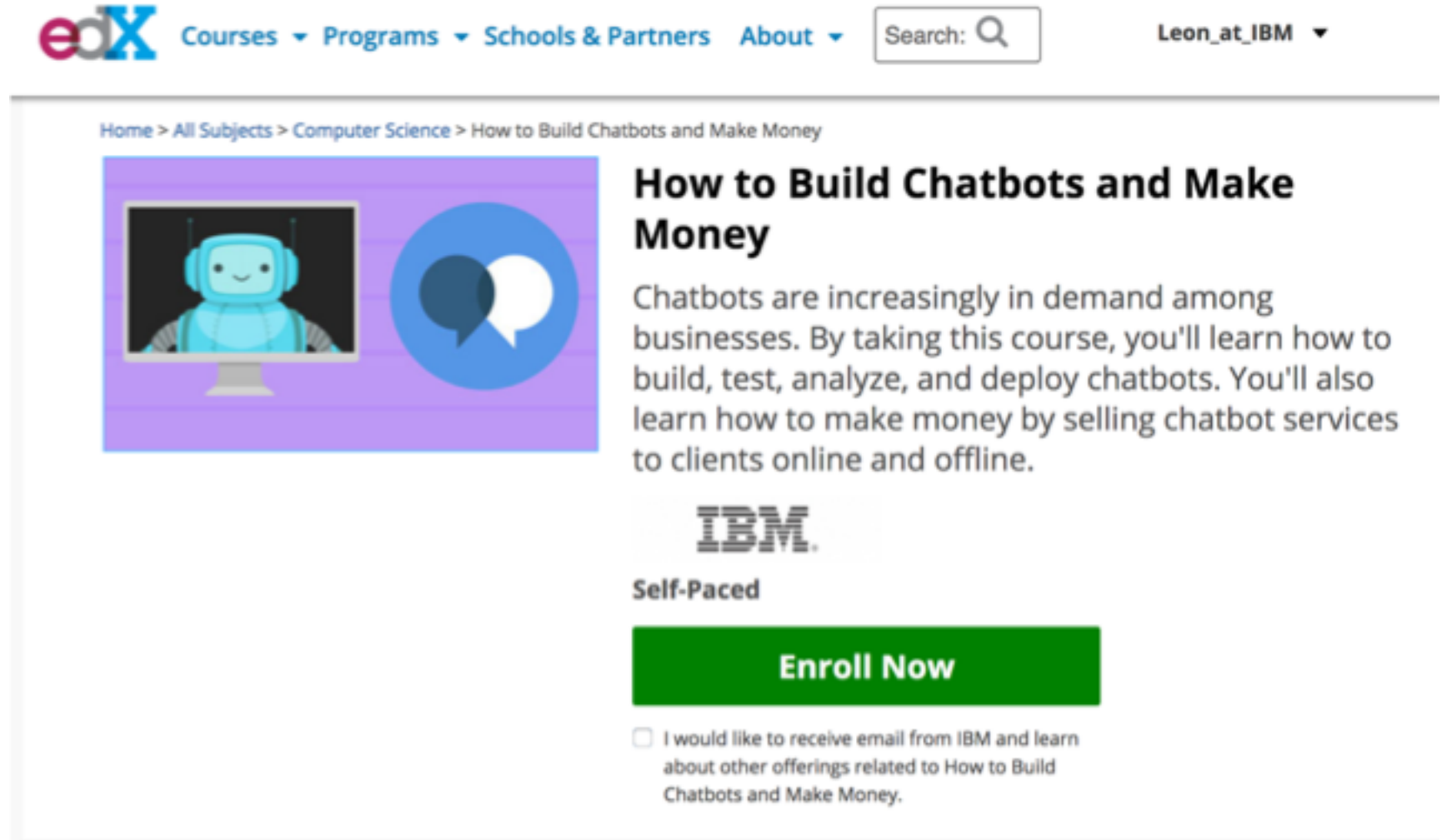
Leon Katsnelson, Rav Ahuja, Luiz Aoqui

# Just Launched on edX.org

## Special Offer

One year of IBM  
Watson Assistant  
services to power  
10 chatbots at no  
charge.

A perfect way to  
kickstart your  
chatbot building  
business!



The screenshot shows the edX.org website interface. At the top, there is a navigation bar with the edX logo, links for 'Courses', 'Programs', 'Schools & Partners', and 'About', a search box, and a user profile 'Leon\_at\_IBM'. Below the navigation bar is a breadcrumb trail: 'Home > All Subjects > Computer Science > How to Build Chatbots and Make Money'. The main content area features a purple banner with an illustration of a blue chatbot on a screen and a blue speech bubble icon. To the right of the banner is the course title 'How to Build Chatbots and Make Money' in bold black text. Below the title is a paragraph of text: 'Chatbots are increasingly in demand among businesses. By taking this course, you'll learn how to build, test, analyze, and deploy chatbots. You'll also learn how to make money by selling chatbot services to clients online and offline.' Below this text is the IBM logo, the text 'Self-Paced', and a prominent green button labeled 'Enroll Now'. At the bottom of the page, there is a checkbox with the text: 'I would like to receive email from IBM and learn about other offerings related to How to Build Chatbots and Make Money.'

- Module 5 - Working with Numpy Arrays
- Course Summary
- Final Exam
- Course Survey and Feedback
- Completion Certificate and Badge

### LAB TUPLES

Click on the "Start Lab" below button to begin!

Download lab Full screen Close lab

CC Labs ahujarav1 - My Data

File Edit View Run Kernel Tabs Settings Help

Launcher x 2.1\_Tuples Python 3

Tuples

In Python, there are different data types: string, integer and float. These data types can all be contained in a tuple as follows:

```
In [ ]: tuple1=("disco",10,1.2)
tuple1
```

The type of variable is a tuple.

```
In [ ]: type(tuple1)
```

Each element of a tuple can be accessed via an index. The following table represents the relationship between the index and the items in the tuple. Each element can be obtained by the name of the tuple followed by a square bracket with the index number:

0	"disco"	tuple1[0]= "disco"
1	10	
2	1.2	

Download lab: 2.1\_Tuplesjupyter\_labs\_v1.ipynb

### LAB LISTS

Click on the "Start Lab" below button to begin!

Start lab

Download lab: 2.2\_Listsjupyter\_labs\_v1.ipynb

from practical skills to credentials on blockchain



Certificate name course-v1:inlaedu+0XR180DN+v8

Issued at Tue Aug 15 2017 06:44:09 GMT+0000 (UTC)

Criteria This certificate is awarded in recognition of full participation and successfully passed the final exam in an intensive four-day data science bootcamp taught by IBM instructors. The bootcamp covered the following topics in-depth: data science fundamentals, data analysis in Python (including pandas and scikit-learn), Jupyter notebooks, data visualization in Python (including matplotlib and folium), machine learning with Python (including decision trees, random forests, k-nearest neighbours, k-means clustering), computer vision in Python with OpenCV and IBM Watson Visual Recognition, chatbots with IBM Watson Conversation, big data with Apache Spark, and deep learning with TensorFlow. To learn more about the IBM Data Science Bootcamp, go to: https://courses.blu.intel.edu.com/courses/course-v1:inlaedu+0XR180DN+v8/about

Valid Certificate ID: 0682993f-f78b-48ac-e63f-abb464c5929

Certificate hash: f256c17f2e72ac9404dea2566c2562f42531c15497e55bee45e813ac564d888ef0575f38975b35e387ae59e7d56afed88539681bcb356cc48c1fa3f564b8

## The Challenge

- 2016: Challenged to keep up with explosive growth using another LMS
- Demand for white labeled version from clients, universities and education partners:
  - Enterprise integration e.g. SSO
  - Integrated support for learners
  - Certificates and digital badges
  - Customization: custom content, custom learning paths and data sets
- Quickly provision Private Skills Platforms for clients World Wide:
  - Hosted or
  - On-prem behind firewall
- Embedded hands-on labs: no software to download, install and configure



# Embedded Labs

COGNITIVE CLASS Python for Data Science Cognitiveclass PY0101EN

Explore new learning opportunities luizaogui123

Courseware Course Info Discussion Wiki Resources Progress

- Welcome!
- About this course
- Module 1 - Python Basics
  - Learning Objectives
  - Your First Program (1:15)
  - Types (2:57)
  - Expressions and Variables (3:50)
  - Lab - Write your first Python code!
  - String Operations (3:53)
  - Lab - String Operations**
  - Review Questions
- Module 2 - Python Data Structures
- Module 3 - Python Programming Fundamentals
- Module 4 - Working with Data in Python
- Module 5 - Working with Numpy Arrays
- Course Summary
- Final Exam

### Lab Instructions

**How do I run Python?**  
You can use the CC Labs environment to run Python code in Jupyter notebooks, by simply clicking on the "Start Lab" button below.

**Do I need to download or install Python?**  
No, you can use Python directly within your web browser, through CC Labs. Just click on the "Start Lab" button below and CC Labs will load directly on this page.

**Which version is used in these labs: Python 2 or Python 3?**  
All of these labs use Python 3.

**What is "CC Labs"?**  
CC Labs is a virtual lab environment that lets you practice what you learn in these courses.

**What are "Jupyter Labs"?**  
Jupyter Labs are a popular data science tool that lets Data Scientists write code, see the results, and describe what's happening -- all in a single document.

### LAB - STRING OPERATIONS

Click on the "Start Lab" button to begin!

[Start lab](#)

[Download lab: 1.2\\_String\\_Operationsjupyter\\_labs\\_v1.ipynb](#)

Secure https://courses.cognitiveclass.ai/cou... ahujarav

COGNITIVE CLASS Python for Data Science Cognitiveclass PY0101EN

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## LAB TUPLES

Click on the "Start Lab" below button to begin!

[Download lab](#) [Full screen](#) [Close lab](#)

CC Labs ahujarav1 - My Data

File Edit View Run Kernel Tabs Settings Help

Launcher x 2.1\_Tuples Python 3

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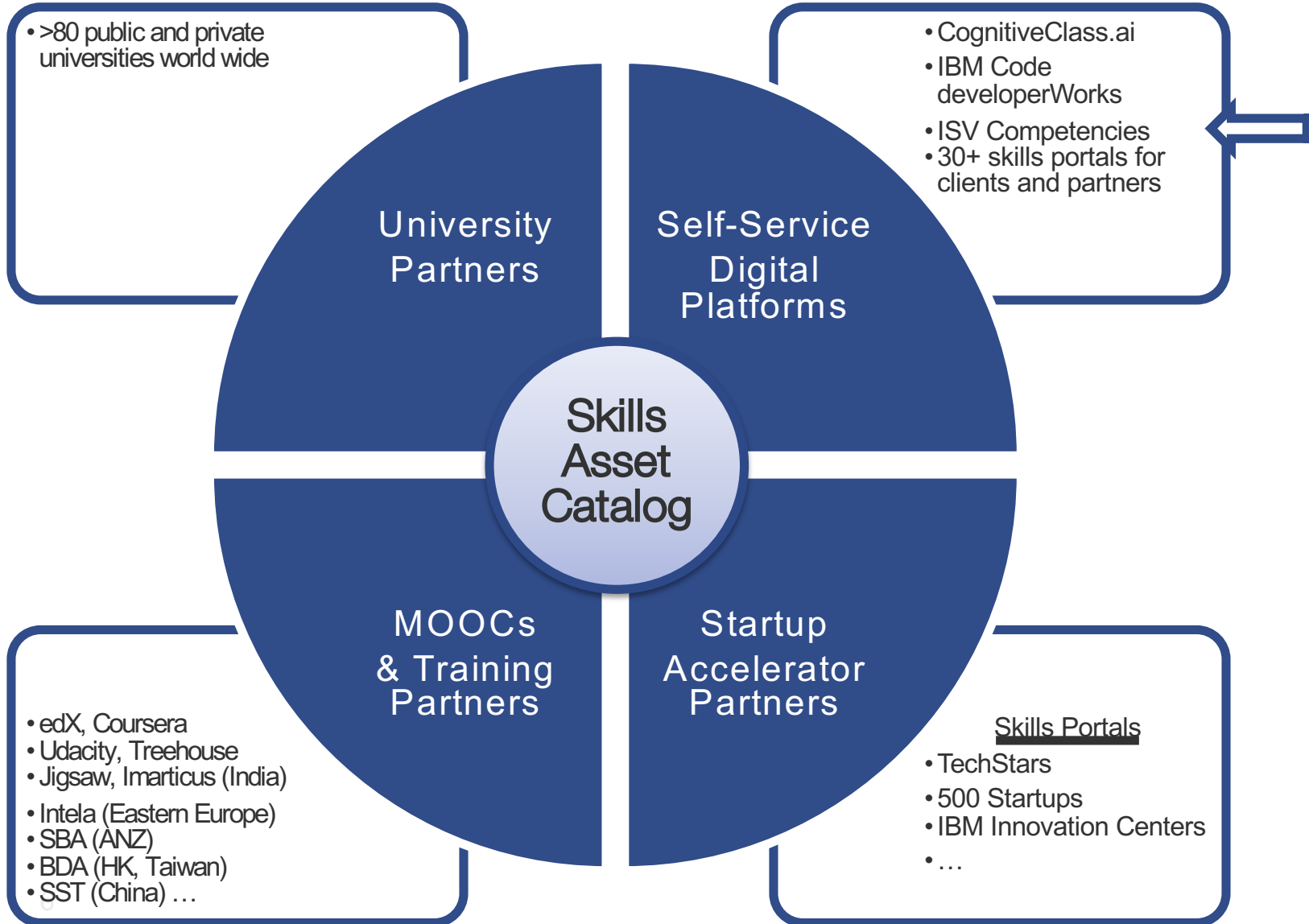
### LAB LISTS

Click on the "Start Lab" below button to begin!

[Start lab](#)

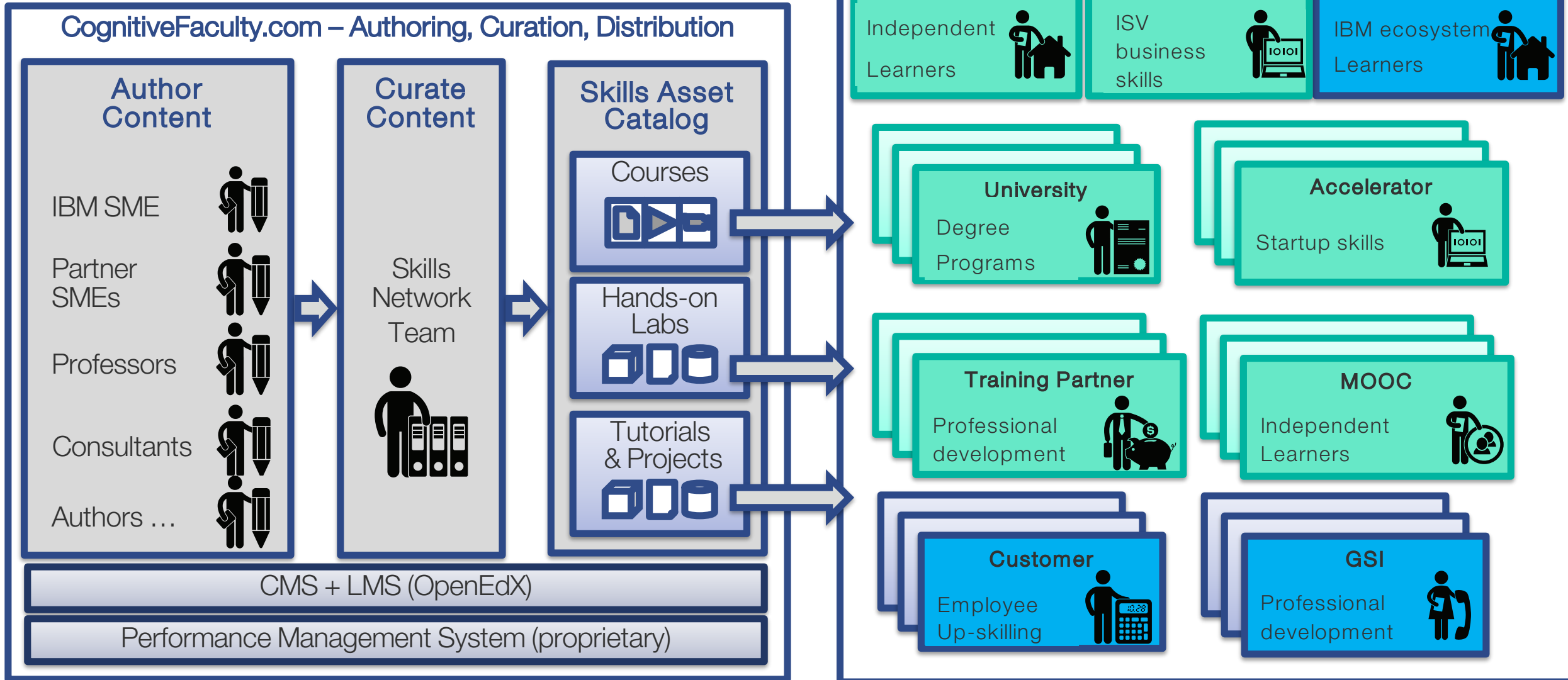
[Download lab: 2.2\\_Listsjupyter\\_labs\\_v1.ipynb](#)

# Solution: Global Skills Network



Digital Platform Reach	
Courses	70+
Competencies and Learning Paths	18+
Registered learners	1.1M
Course Enrolments	2M
Certificates Issues	500 K
IBM Badges Issued	237K
NPS	51

# Skills Network: Platform





# Private Skills Instance

- CMS + LMS (OpenEdX)
- Management Console
- Your own course catalog with subscription to the new and updated materials from our global catalog (like Apple App Store)
- Virtual Lab Environment – no need to download or install software. Big systems for Big Data
- Competition Management System – like Kaggle but you are in full control
- Support and ticketing system for your users or integrated with your existing system

## CORNELL UNIVERSITY IBM SKILLS CENTRE HANDS-ON SKILLS FOR THE 21ST CENTURY

### Recommended Learning Paths



Choose a Learning Path below to discover which courses you should take:



Data Science for MBA Students



Data Science with Python



Data Science with R

# Quickly Provision Private Skills Instances

**Step 1:** Request Cognitive Class for Business/Education. Choose on-prem or hosted.

**Step 2:** Get a quick training session (30-minute web conference)

**Step 3:** Customize look and feel, authorizations, course catalog, learning paths

**Step 4:** Launch portal in your organization

**Step 5 (optional):** Author your own courses

**Step 6:** there is no step 6.



Drump University

Write

Preview

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## ## Portal Information

- \* Portal Name: The Science of the Deal
- \* Portal URL: [www.Drump.deal](http://www.Drump.deal)
- \* Portal location: [Toronto, Washington DC, Hong Kong or Chennai]
- \* Due date: [yyyy-mm-dd hh:mm]

- Contact name: [Contact name]
- Contact email: [Contact email]

## ## Deployment

- [ ] Create `./portals/<env>/<slug>.yml` file
- [ ] Run `ansible-playbook deploy-portal.yml`
- [ ] Add initial credentials to [Box Note](<https://ibm.ent.box.com/notes/136494775927>)

## ## Testing

- [ ] Login as admin
- [ ] Install course
- [ ] Load a lab
- [ ] Open Studio

[ ] Remove test course

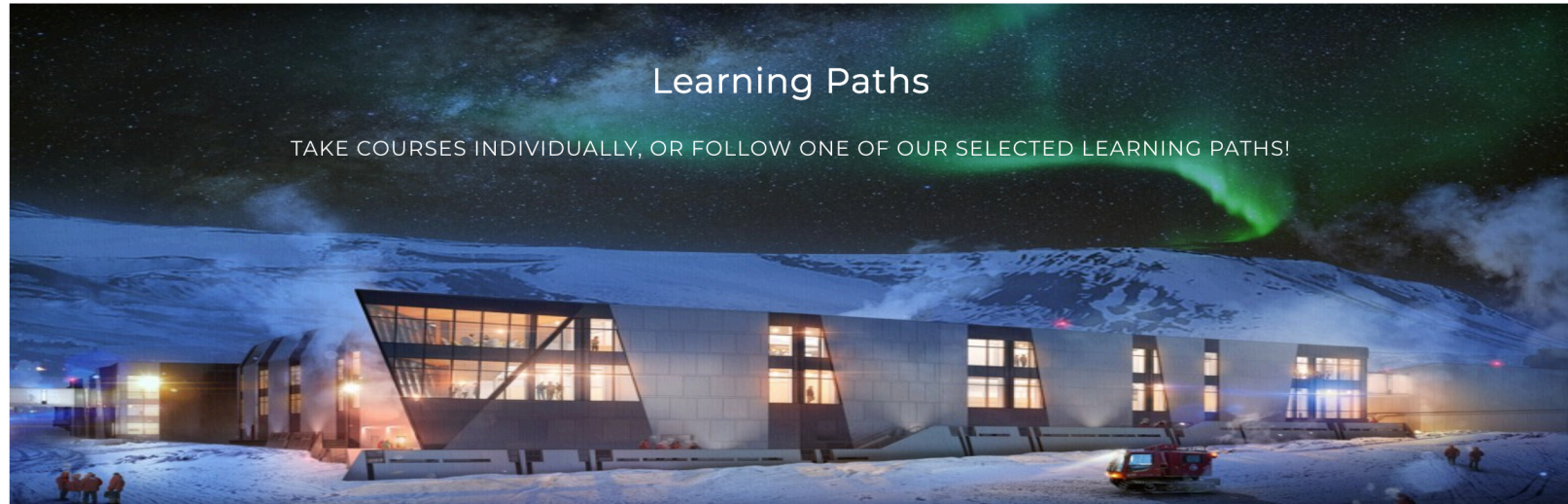
Attach files by dragging & dropping, selecting them, or pasting from the clipboard.

Styling with Markdown is supported







Submit new issue



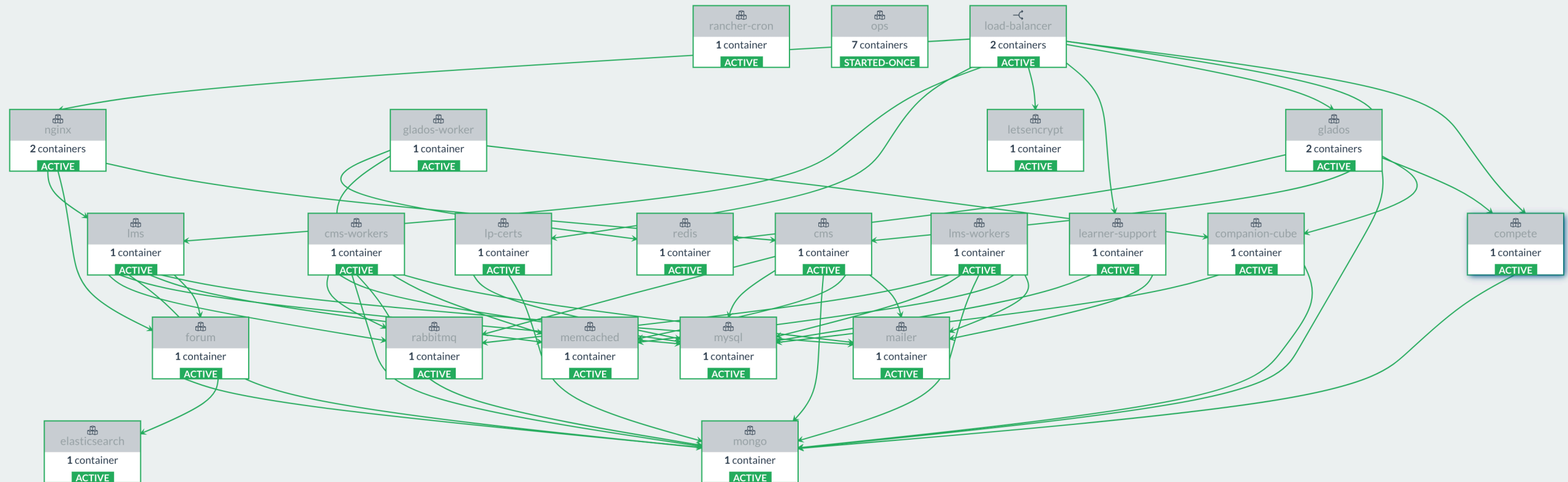
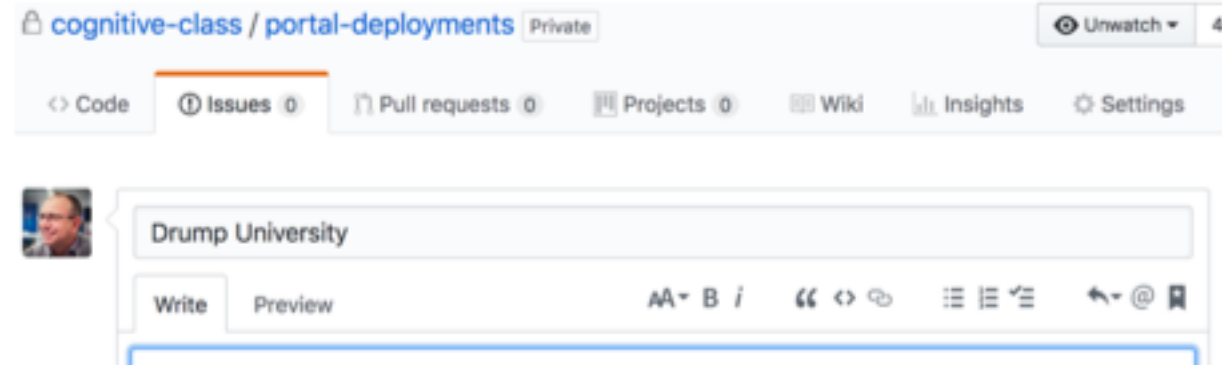
# Demo Time!



## Learning Paths

 <p>Hot topics - Basics</p>	 <p>Data Science Foundations</p>	 <p>Data Engineer Essentials</p>
 <p>Introduction to Machine Learning</p>	 <p>Data Science for Business</p>	 <p>Blockchain Developer</p>

# Quickly Provision Private Skills Instances



# What about BLOCKCHAIN

G  
B  
D  
M  
B  
I

# Academic Credentials Blockchain

## Problem we are solving:

- Prevent credentials fraud (multi-billion \$ problem)
- Reduce credential verification from months to seconds
- Return data to its rightful owner i.e. student

## Status:

- Developed an Open edX Xblock for issuing certificates on blockchain
- Successful PoC of a permissioned blockchain. Issued first set of 425 certificates

## Next steps:

- Building a **consortium** of academic institutions, MOOC platforms, and technology providers
- Make code Open Source

