

“Housekeeping”



- Welcome to today's ACM Webinar. The presentation starts at the top of the hour.
- If you are experiencing any problems/issues, refresh your console by pressing the **F5** key on your keyboard in **Windows**, **Command + R** if on a **Mac**, or refresh your browser if you're on a mobile device; or close and re-launch the presentation. You can also view the Webcast Help Guide, by clicking on the “Help” widget in the bottom dock.
- To control volume, adjust the master volume on your computer.
- If you think of a question during the presentation, please type it into the **Q&A** box and click on the submit button. You do not need to wait until the end of the presentation to begin submitting questions.
- At the end of the presentation, you'll see a **survey URL** on the final slide. Please take a minute to click on the link and fill it out to help us improve your next webinar experience.
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coursera



The MOOC revolution: Status and next steps

Andrew Ng
Stanford University & Coursera

ACM Learning Center

<http://learning.acm.org>



- 1,400+ trusted technical books and videos by leading publishers including O' Reilly, Morgan Kaufmann, others
- Online courses with assessments and certification-track mentoring, member discounts on tuition at partner institutions
- Learning Webinars on big topics (Cloud/Mobile Development, Cybersecurity, Big Data, Recommender Systems, SaaS, Agile, Machine Learning, Natural Language Processing, Parallel Programming, etc.)
- ACM Tech Packs on top current computing topics: Annotated Bibliographies compiled by subject experts
- Popular video tutorials/keynotes from ACM Digital Library, A.M. Turing Centenary talks/panels
- Podcasts with industry leaders/award winners

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- This presentation is being recorded and will be available for on-demand viewing in the next 1-2 days. You will receive an **automatic e-mail notification** when the recording is ready.

Talk Back

- Use the [Facebook](#) widget in the bottom panel to share this presentation with friends and colleagues
- Use [Twitter](#) widget to Tweet your favorite quotes from today's presentation with hashtag [#ACMWebinarMOOC](#)
- Submit questions and comments via Twitter to [@acmeducation](#) – we're reading them!

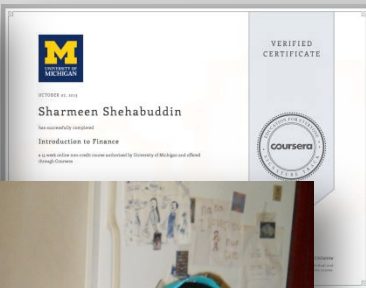


**Sharmeen
Shehabuddin
(Bangladesh)**





Sharmeen Shehabuddin
(Bangladesh)



400,000





18 of the top 25 US Universities
(ARWU rankings)

49 top universities
from 20 countries

9 teacher development
partners

Courses from Top Universities

Poll


Have you signed up for a MOOC before?

- Yes
- No




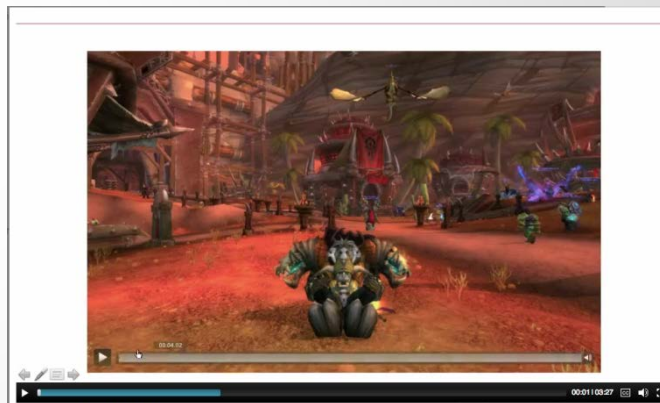
 Sustainability




 Health Policy & the Affordable Care Act



 Introduction to Sociology



 Gamification

Video based instruction



Home

Video Lectures

Reading Assignments

Quizzes

Discussion Fora

Writing Assignment

Hangout

Click Here

About the Course

About Us

Video Lectures

Having trouble viewing lectures? Try these tips

Introduction

Meet Dan Ariely (2:53)

Site Tour (8:35)

Managing Your Time

Week 1: Irrationality

✓ 1.1 Visual and Decision Illusions (19:16)

1.2 Defaults (19:57)

1.3 Do We Know Our

1.4 Choice Sets and

1.5 The Long-lasting Effects of Decisions (22:09)

1.6 Learning from Our Mistakes (9:58)

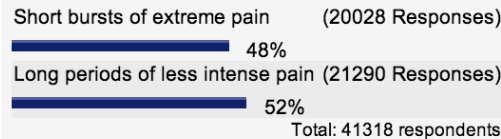
Special Guest: Gavan Fitzsimons (15:11)

1.1 Visual and Decision Illusions (19:16)

Don't click "Continue" Yet! First, answer the below question, then click submit.

Lecture Quiz: 1.1 (Bandage Removal)

Which strategy of bandage removal would you choose?



If you have trouble seeing the poll, [click here](#) to open it in a new window.

Continue

03:35 / 19:16

Discuss

« Prev Next »

Who discovered the theory of general relativity?

Albert Einstein

Submit

What is the derivative of $\frac{\sin(x)}{x}$ w.r.t. x ?

$(x * \cos(x) - \sin(x)) / x^2$

Preview

Your submission is equivalent to: $\frac{x \cos(x) - \sin(x)}{x^2}$

```
image = new SimpleImage("puzzle-copper.png");

for (pixel: image) {
    // your code here
    pixel.setRed(0);
    pixel.setGreen(pixel.getGreen() * 10);

    pixel.setBlue(pixel.getBlue() * 10);
}

print(image);
```

Run

| | A | B | C | D |
|---|--------------------------|---------|---------|---------|
| 1 | | 2012 | 2013 | 2014 |
| 2 | Units sold | 20,000 | 30,000 | 35,000 |
| 3 | Revenue | 400,000 | 600,000 | 700,000 |
| 4 | COGS | 100,000 | 150,000 | 175,000 |
| 5 | Ad spend | 30,000 | 40,000 | 40,000 |
| 6 | | | | |
| 7 | Distributor model | | | |
| 8 | Sales People | 1 | 2 | 5 |
| 9 | Dist. per sales person | 3 | 5 | 8 |

Autograded Homeworks and Exercises

Innovative pedagogy

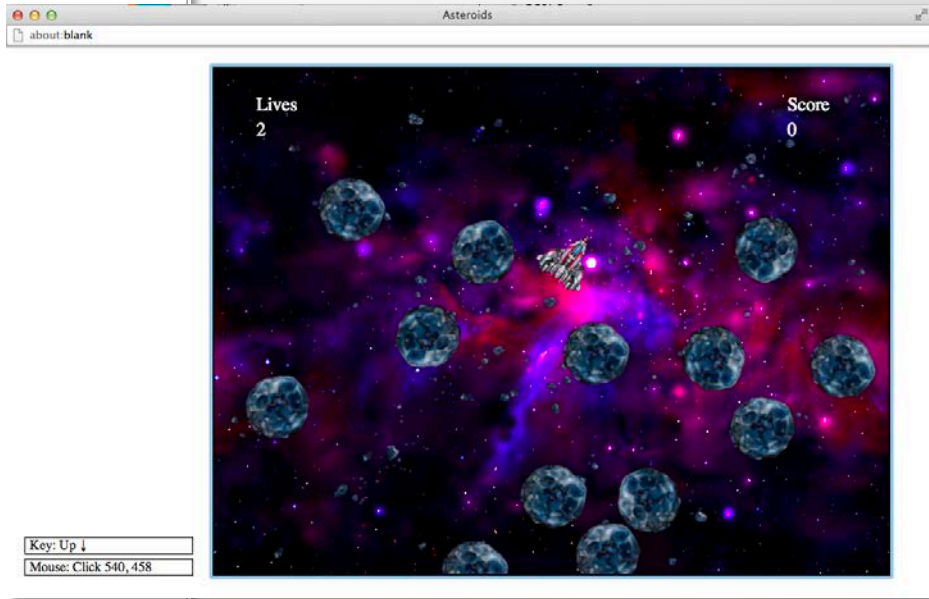
An Introduction to Interactive Programming in Python

by Joe Warren, John Greiner, Stephen Wong, Scott Rixner



```
CodeSculptor Docs Demos Courses

1 # implementation of Spaceship - program template for RiceRo
2 import simplegui
3 import math
4 import random
5
6 # globals for user interface
7 WIDTH = 800
8 HEIGHT = 600
9 score = 0
10 lives = 3
11 time = 0.5
12 started = False
13
14 class ImageInfo:
15     def __init__(self, center, size, radius = 0, lifespan =
16         self.center = center
17         self.size = size
18         self.radius = radius
19         if lifespan:
20             self.lifespan = lifespan
21         else:
22             self.lifespan = float('inf')
23         self.animated = animated
24
25     def get_center(self):
26         return self.center
27
28     def get_size(self):
29         return self.size
30
31     def get_radius(self):
32         return self.radius
33
34     def get_lifespan(self):
35         return self.lifespan
36
37     def get_animated(self):
38         return self.animated
39
40
41 # art assets created by Kim Lathrop, may be freely re-used
42
43 # debris images - debris1_brown.png, debris2_brown.png, deb
44 # debris1_blue.png, debris2_blue.png, debris1.png, debris2.png
45 debris_info = ImageInfo([320, 240], [640, 480])
46 debris_image = simplegui.load_image("http://commondatastorage
47
48 # nebula images - nebula_brown.png, nebula_blue.png
49 nebula_info = ImageInfo([400, 300], [800, 600])
50 nebula_image = simplegui.load_image("http://commondatastorage
51
52 # splash image
53 splash_info = ImageInfo([200, 150], [400, 300])
54 splash_image = simplegui.load_image("http://commondatastorage
55
56 # ship image
57 ship_info = ImageInfo([45, 45], [90, 90], 35)
58 ship_image = simplegui.load_image("http://commondatastorage
59
60 # missile image - shot1.png, shot2.png, shot3.png
```



Share and run code in the browser



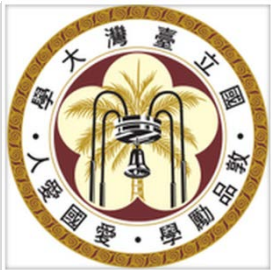
Dr. Michael F. Schatz

Professor
School of Physics
Georgia Institute of Technology



“Your World is your lab” physics class

Andrew Ng



Benson Yeh

Game integration (National Taiwan University)

Andrew Ng

LaPtabel laptop table



Ramaswamy Venkatachalam
Gujarat, India

DuoSlim portable device holder



Aranzazu Hurtado Ruiz
Madrid, Spain

Neo-WD space-efficient workdesk



Paul Mendoza
Manila, Philippines



Balesh Jindal

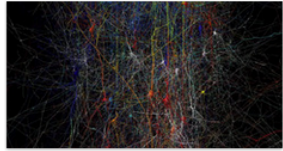


Scott Plous

Professor
Department of Psychology
Wesleyan University

WESLEYAN
UNIVERSITY





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Course Information

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Students Map

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Course Wiki

Join a Meetup

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Forums / Get Help Here / Course Material Help

Information storage

Subscribe for email updates.

Sort replies by: **Oldest first** Newest first Most popular

No tags yet. + Add Tag

Student 1

a day ago

The problem summary:

How is the information stored in our brain? As in computers we use potentials, or magnetization for example to make an array of binary code (1 or 0), what is the analogous in the brain?

Steps to rep

Student 2

a day ago

-We have wid
real time, pas

Maybe in
really do

Student 3

a day ago

-The questio
would be the
memories? Is
and where in

may cha
network
excited.
Actually
really jus

https://cla

said, but a
maybe I'm
activated,
Perha

Anonymous · 20 hours ago

Student

4

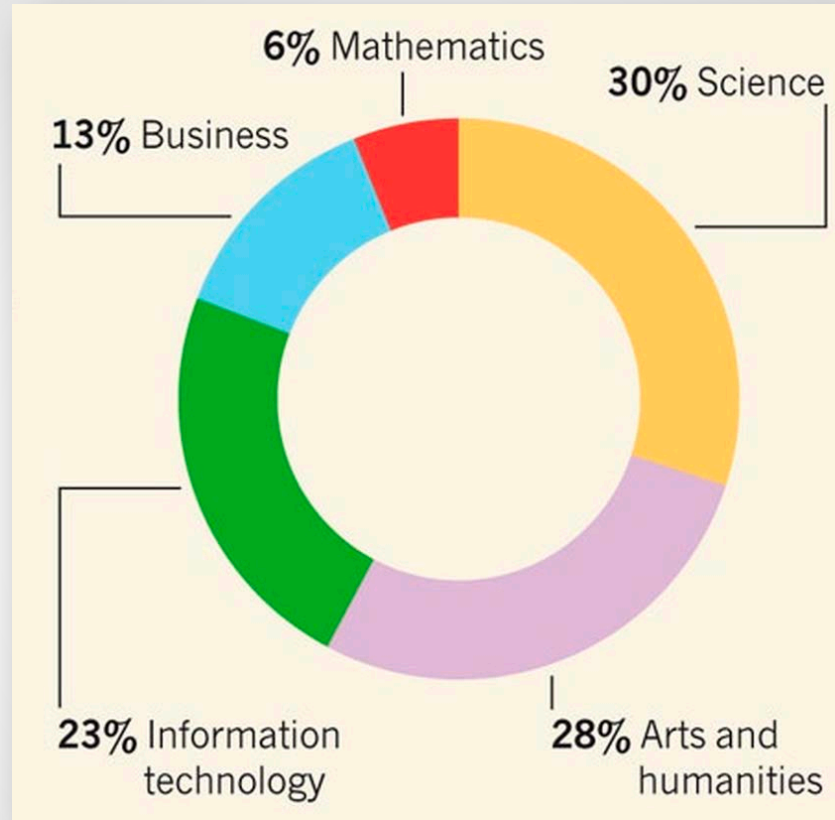
· 5 minutes ago

Coments:

Thank you so much. S
this topic or is someth

"Within the human
I'm also curious h
each one and tes

I've already worked a lot on this before starting with this course (nonetheless I learned a lot of details in the course). One of the most interesting papers I found is that information is represented feature based <http://www.cs.rochester.edu/users/faculty/dana/tanifuji.pdf>. I've already tried around building some small information processing algorithms based on this. If you are interested we could probably talk a bit about it.



Courses in Humanities, Science, Engineering, Business,



Image by placeit

Customer Ratings

Current Version All Versions

Average Rating: ★★★★★ 418 Ratings

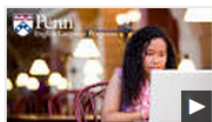
Click to rate: ★★★★★



Mobile applications (iOS and Android)

About 36,900,000 results (0.30 seconds)

Applying to U.S. Universities | Coursera



<https://www.coursera.org/course/usuniversities> Coursera

Applying to U.S. Universities is a free online class taught by of University of Pennsylvania.

IBM has 27,217 followers on Google+

Data Analysis - intel.co.uk

Ad www.intel.co.uk/BigData

Intel® Delivers Technology Built to Scale Your Big Data Challenges.

Data analysis - Wikipedia, the free encyclopedia

en.wikipedia.org/wiki/Data_analysis Wikipedia

Analysis of data is a process of inspecting, cleaning, transforming, and modeling **data** with the goal of discovering useful information, suggesting conclusions, ...

[Data Applied](#) - [Exploratory data analysis](#) - [Common-method variance](#)

Data Analysis | Coursera



<https://www.coursera.org/course/dataanalysis> Coursera

Data Analysis is a free online class taught by of Johns Hopkins University.

), applying to US universities, Android
ques, beethoven piano sonatas,
business strategy, compiler, computer
science class, computational
onal law, corporate finance,
/sis, data analytics, data science, drugs
policymaking, employability skills,
idemics, equine nutrition, financial
gineering, financial markets, game
amification, gastronomy, greek and
gy, healthcare informatics, history of rock, history
uman history, how things work, how to change
to program, human physiology, improvisation,
as, intermediate algebra, macroeconomics,
omputing, modern poetry, music production,
ge processing, neural network, operations
pharmacology, precalculus, programming in
mming languages, quantitative finance, roman
science of the solar system, social psychology,
/stem biology, teacher professional development,
hing, and thousands more...

International Reach



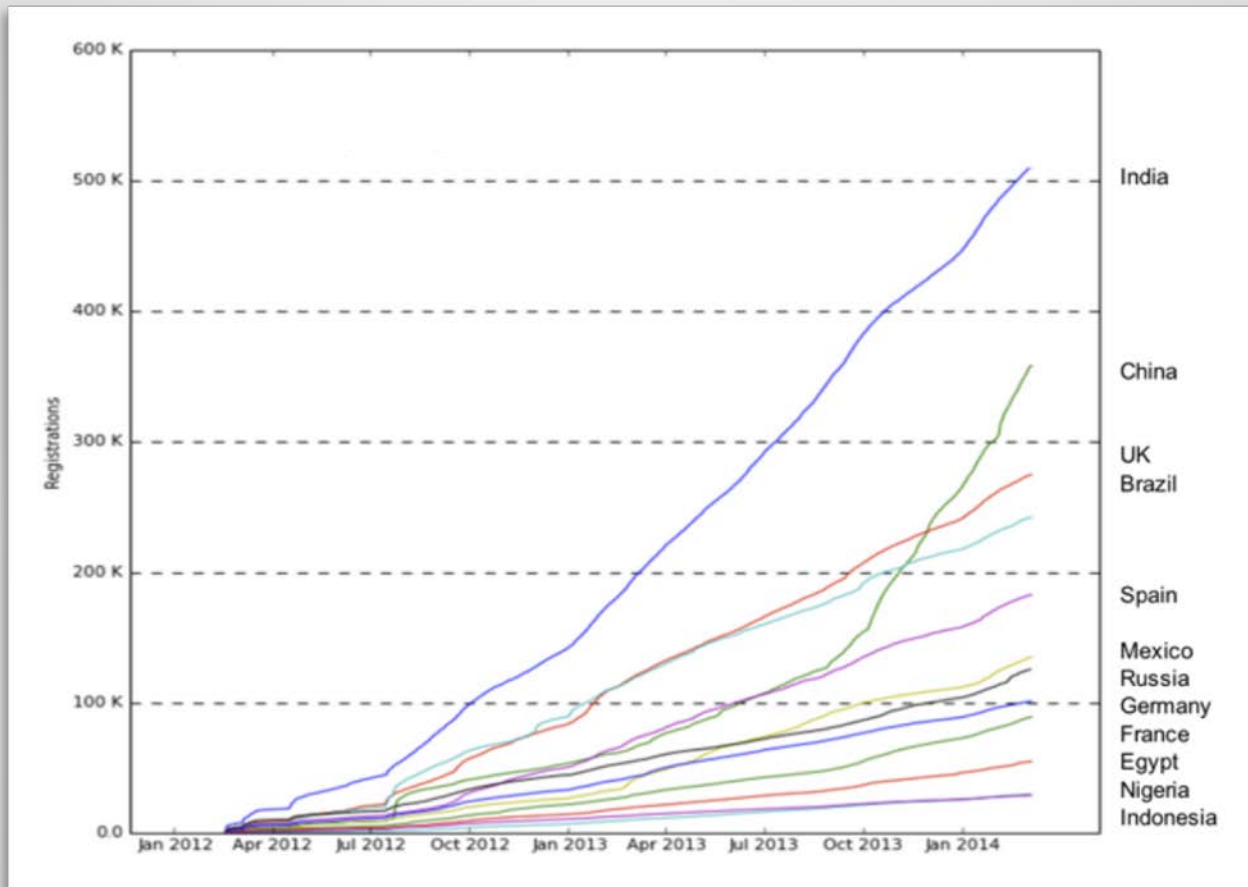
Sociology 101 Student Map

Global community of learners

Poll

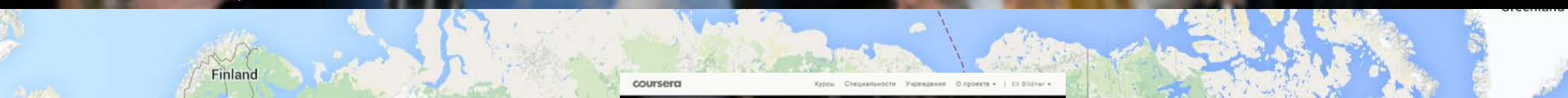
After the US, what is the fastest growing country (new user signups)?

- Russia
- Brazil
- India
- China



Global community of learners

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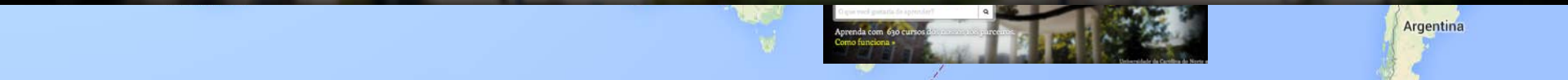
课程 专项课程 合作院校 关于 ▾ | Eli Bildner ▾

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您希望了解哪些内容？



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运作方式 »



根据课程名称、类别、大学或老师进行查找

全球合作伙伴 (17) · 美国州立院校 (0)

排序方式 即将开课

 即将开始

符合条件

 签名认证 所有语言 英语 中文 法语 西班牙语 葡萄牙语 土耳其语 德语 俄语 乌克兰语 阿拉伯语 意大利语 日语 所有类别 艺术

Introductory 计算机概论

Ge Li 李戈, PI

计算概论A是针对“主干课程。本课程介绍计算机科学技术知识所必需设计的基础知识”技能。

课程负载: 6-8 小时

语言: Chinese

字幕: Chinese

运作方式

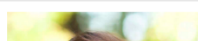


Andrew Ng (吴恩达) 是斯坦福大学计算机科学系的副教授。他还担任斯坦福大学人工智能实验室主任, 该实验室是斯坦福大学主要的人工智能研究机构, 共有15名教授以及150名学生和博士后。2008年, 他与斯坦福大学专业发展中心 (SCDP) 创立了SEE (Stanford Engineering Everywhere), 并将斯坦福大学数十个工程学科课程开放给大众, 这也是斯坦福大学第一次尝试免费分布式的教育方式。有超过一百万人观看了SEE的课程视频。在斯坦福大学, 他同时还领导

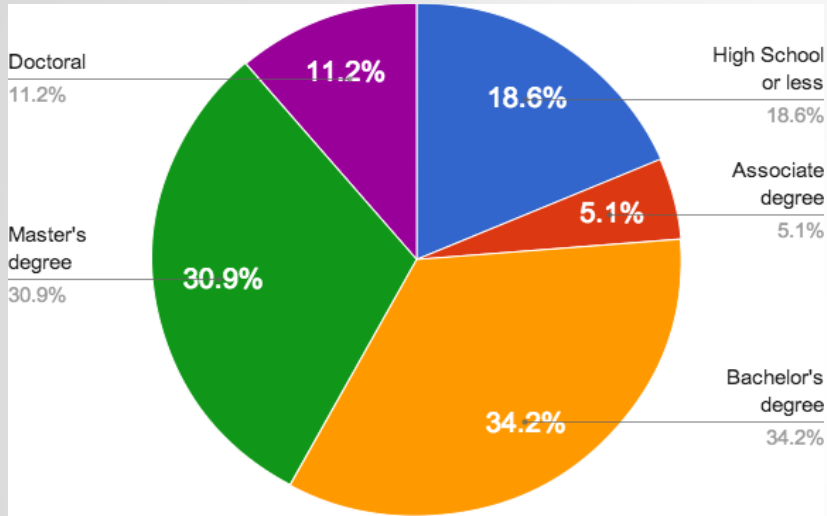
开发了OpenClassroom 和 ml-class/db-class 在线教育平台, 也就是 Coursera 的前身。2011年秋, 他在ml-class平台上讲授了机器学习课程, 该课程是斯坦福最早的大型在线课程之一, 共有超过10万名学生参加。

除了在在线教育以外, 吴恩达还在机器学习领域工作, 特别致力于使用大规模的人脑模拟来构建人工智能系统。他的前期工作包括无人驾驶直升飞机、斯坦福人工智能机器人 (STAIR) 项目和 ROS (目前使用最广泛的开源机器人软件平台)。吴恩达作为作者或共同作者在机器学习领域发表了超过150篇论文, 他的团队获得过 ICML、ACL、CEAS 和 3DRR 等会议的最佳论文及最佳学生论文奖。他是阿尔弗·P·斯隆奖金获得者, 还在2009年获得了人工智能领域的最高奖之一的 IJCAI Computers and Thought award。

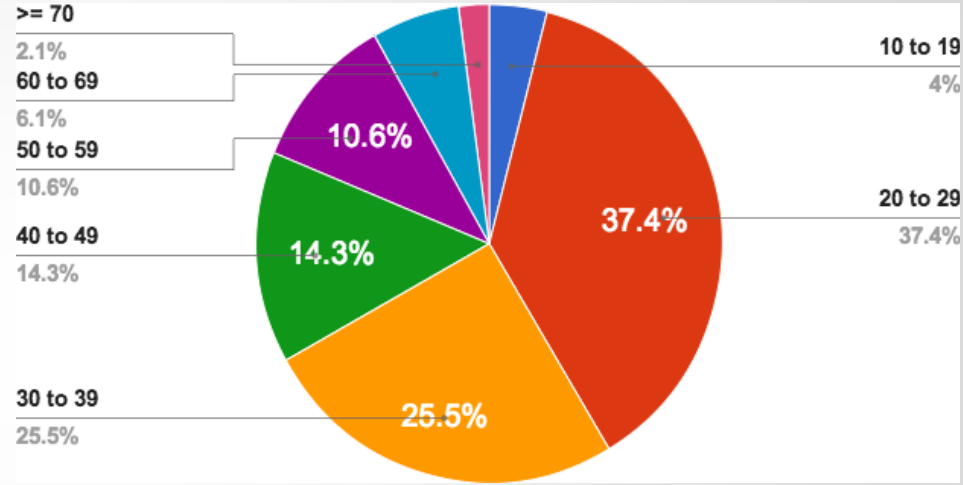
主席



Lila Ibrahim (莉拉·易卜拉欣) 是 Coursera 的主席, 她还是 Team4Tech 公司的联合创始人以



>75% have a Bachelor's degree



Most students 20 to 39 years old

Student demographics

Credentials



**Zack Starer-Stor
(USA)**







Introduction to Guitar

Grasp the essentials needed to begin playing acoustic or electric guitar. You'll learn an easy approach to get you playing quickly, through a combination of exploring the instrument, performance technique, and basic music theory.



About the Course

For students who have long thought about picking up the acoustic or electric guitar, this course will provide an easy-access foundation that will get you playing. When first learning guitar, it is important to have the material presented in stages, in an enjoyable way that allows you to grasp the basics of the instrument and music. The course begins simply with the parts of the guitar, the names of the strings, tuning, and technique—whether finger-style or pick. It then explores the basics of music theory with such topics as scales, triads, power chords, and fingering and shapes.

Sessions

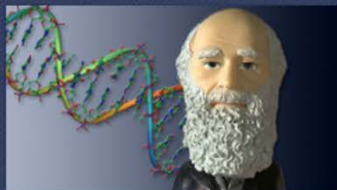
Jan 27th 2014

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Mohamed Noor

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Signature Track Courses

Andrew Ng

Duke
UNIVERSITY

APRIL 09, 2013

Jacob Lyles

has successfully completed with distinction

Introduction to Genetics and Evolution

an online non-credit course offered by Duke University through Coursera



Michael West, Ph.D.
Earl D. McLean Professor and Associate Chair of
Biology
Duke University

VERIFIED
CERTIFICATE

WITH DISTINCTION



Verify at coursera.org/verify/TWCR25MF8

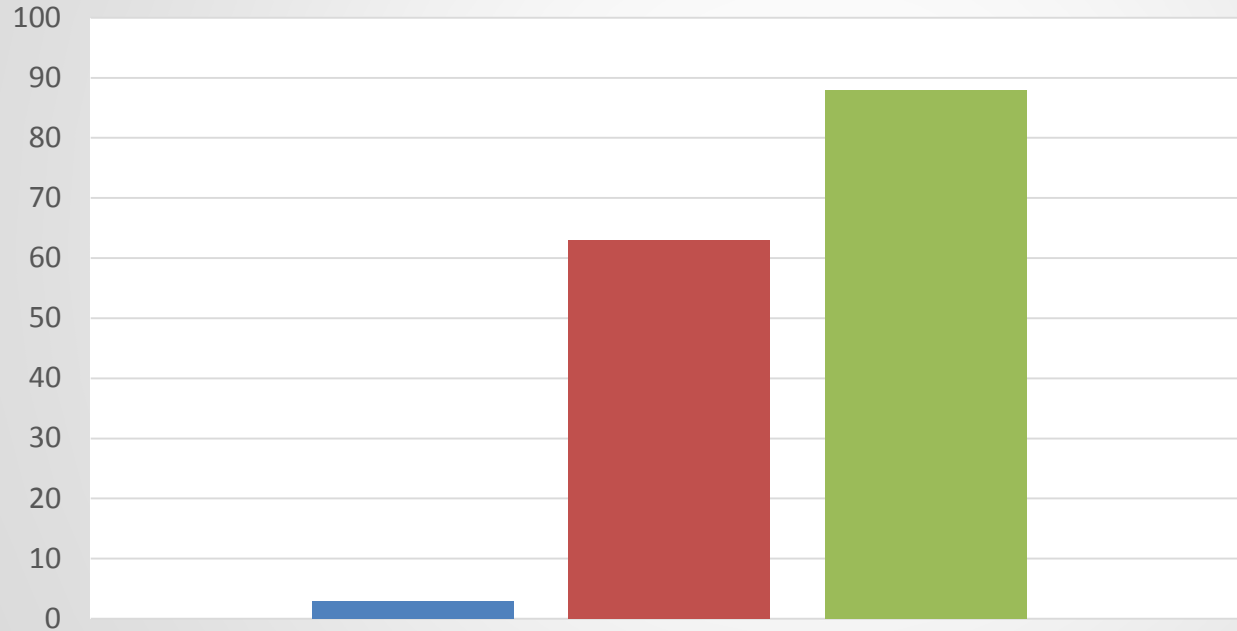
Coursera has verified the identity of this individual and
their participation in the course.

Signature Track

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Retention

■ Overall ■ Committed ■ Comm+SigTrack



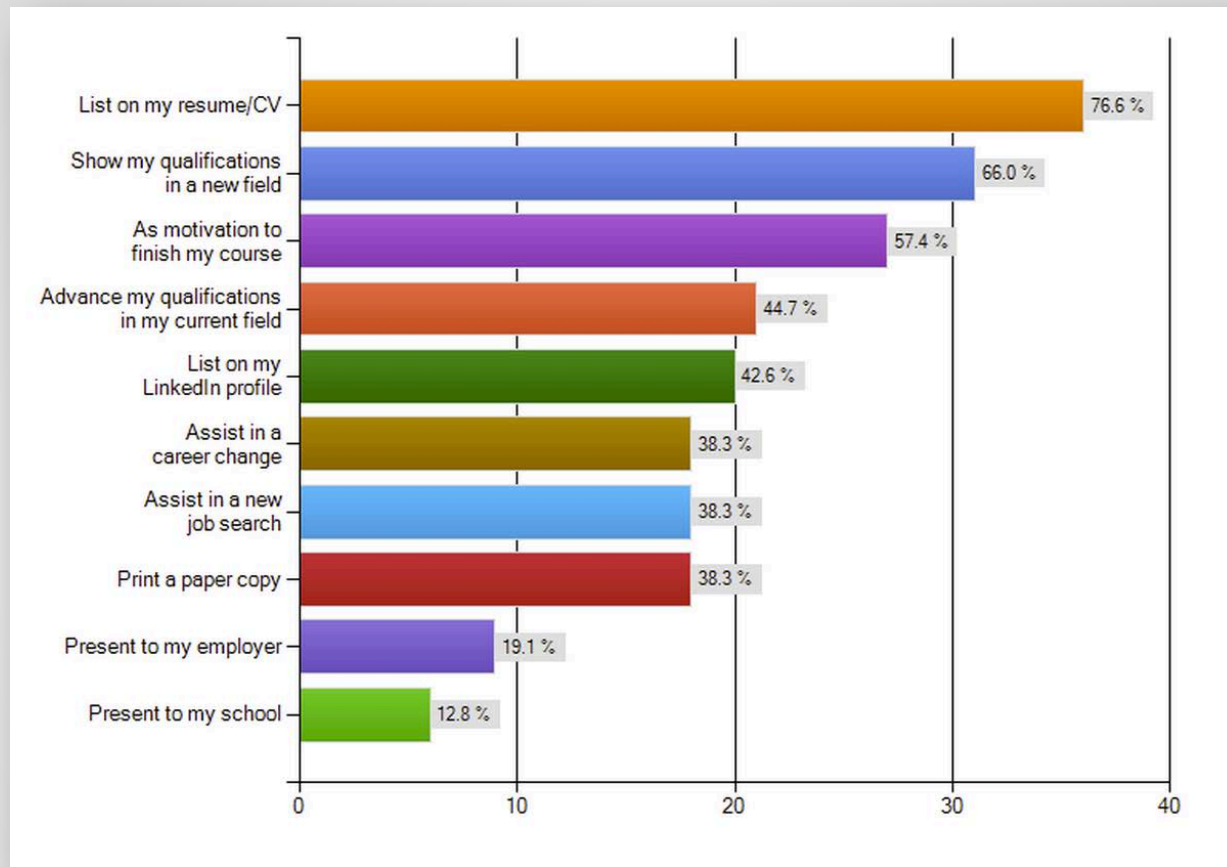
Average retention rates



Poll

What percentage of learners intend to list their Verified Certificate on their CV/resume?

- 35%
- 62%
- 77%
- 89%



Student Motivations: Plans for verified certificate



Data Science
Johns Hopkins University



Mobile Cloud Computing with Android
UMD & Vanderbilt



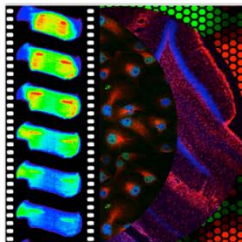
Challenges in Global Affairs
Leiden & UNIGE



Foundations of Teaching for Learning
Commonwealth Education Trust



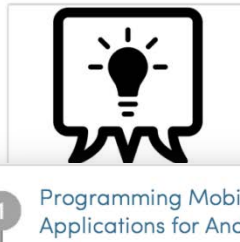
Modern Musician
Berklee College of Music



Systems Biology
Icahn School of Medicine at Mount Sinai



Cybersecurity
University of Maryland, College Park



- 1 Programming Mobile Applications for Android...
- 2 Pattern-Oriented Software Architectures:...
- 3 Programming Cloud Services for Android Handheld...
-  Capstone Project



Course 1

Programming Mobile Applications for Android Handheld Systems

Upcoming Session: TBA

Duration: TBA

Estimated Workload: 3-6 hours/week



JOHNS HOPKINS
UNIVERSITY

Specialization Certificate

has been presented to

Jane Learner

on July 6, 2014 for successfully completing

Data Science

a non-credit series authorized by Johns Hopkins University through Coursera

Signature

Professor John Doe
Department of Lorem Ipsum

Signature

Professor John Doe
Department of Lorem Ipsum



Signature

Professor John Doe
Department of Lorem Ipsum

Signature

Professor John Doe
Department of Lorem Ipsum

Data

Overview

Reach

Engagement

Content

Exports

Learner Activity

All Time

73,018

watched a lecture

29,067

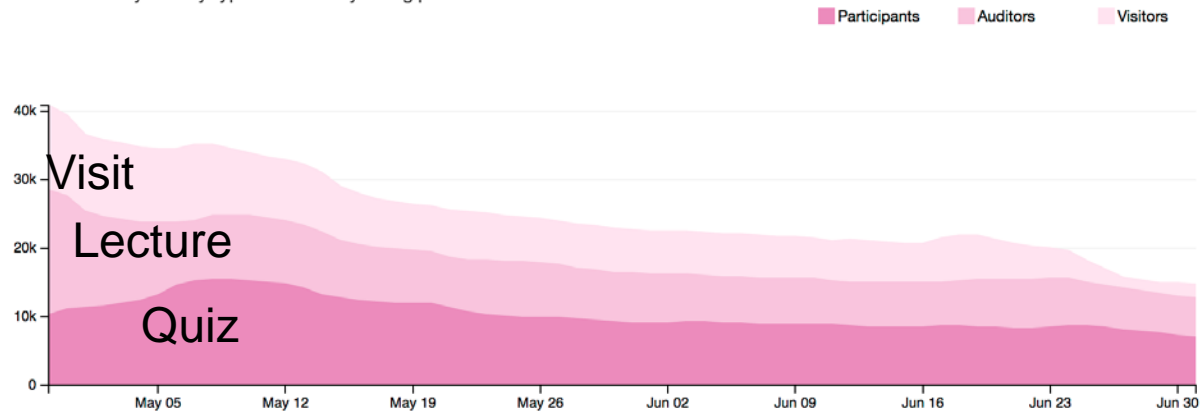
submitted an exercise

7,113

engaged in a discussion

Types of Activity

Count of learners by activity type over a 7-day rolling period



Student retention

Andrew Ng

Reach

82,983

Total learners joined

2,013

with Signature Track

197

countries

27,977 (34%)

learners from emerging economies



- Committed to Complete — 43%
- Committed to Audit — 40%
- Uncommitted — 17%

Engagement

43,650

visited the course

31,316

watched a lecture

18,455

submitted an exercise

2,244

joined a discussion



- Participants — 43%
Learners who submitted an exercise or participated in discussion.
- Auditors — 32%
Learners who only watched lectures.
- Visitors — 24%



Week of January 07

Algorithms: Design and Analysis, Part 2

What you did this week

✓ Logged into [class](#). :)

Upcoming Deadlines

- ✓ Completed [Problem Set #1](#)
- ✓ Completed [Programming Assignment #1](#)
- ✓ Completed [Problem Set #2](#)
- ✓ Completed [Programming Assignment #2](#)

[Problem Set #3](#)

Due Date: Monday, January 07, 2013 at 08:59:00 AM (CET)
Hard Deadline: Monday, February 11, 2013 at 08:59:00 AM (CET)

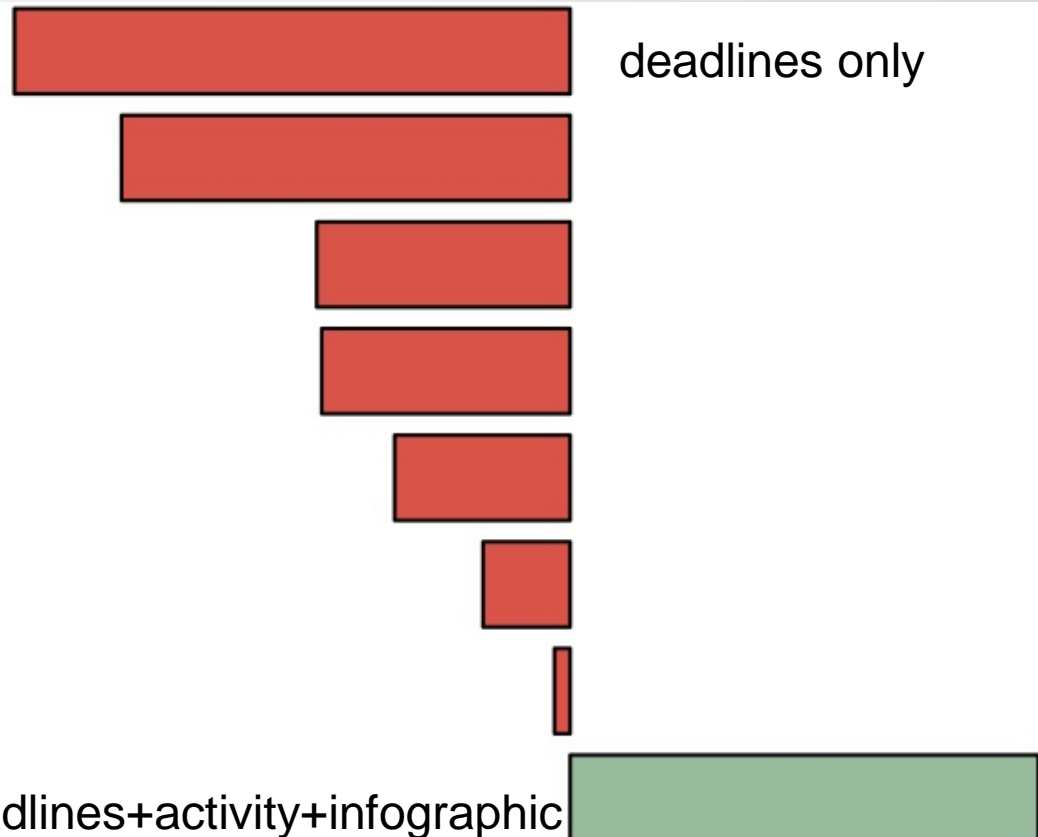
[Programming Assignment #3](#)

Due Date: Monday, January 07, 2013 at 08:59:00 AM (CET)
Hard Deadline: Monday, February 11, 2013 at 08:59:00 AM (CET)

Up next

Watch [WIS in Path Graphs: A Linear-Time Algorithm \(10 min\)](#)

My Progress

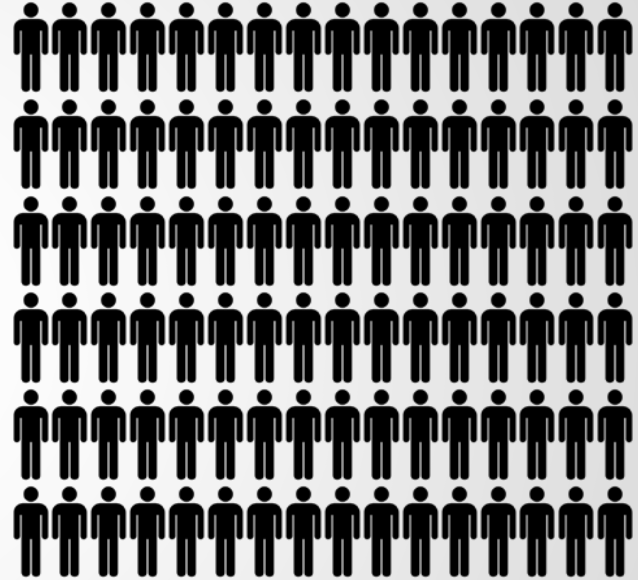


Data: Learn how students learn

Summary



Universities



Learners

Creating Success at Scale



**Sharmeen
Shehabuddin
(Bangladesh)**



**Balesh
Jindal
(New Delhi)**



**Zack
Starer-Stor
(New York)**

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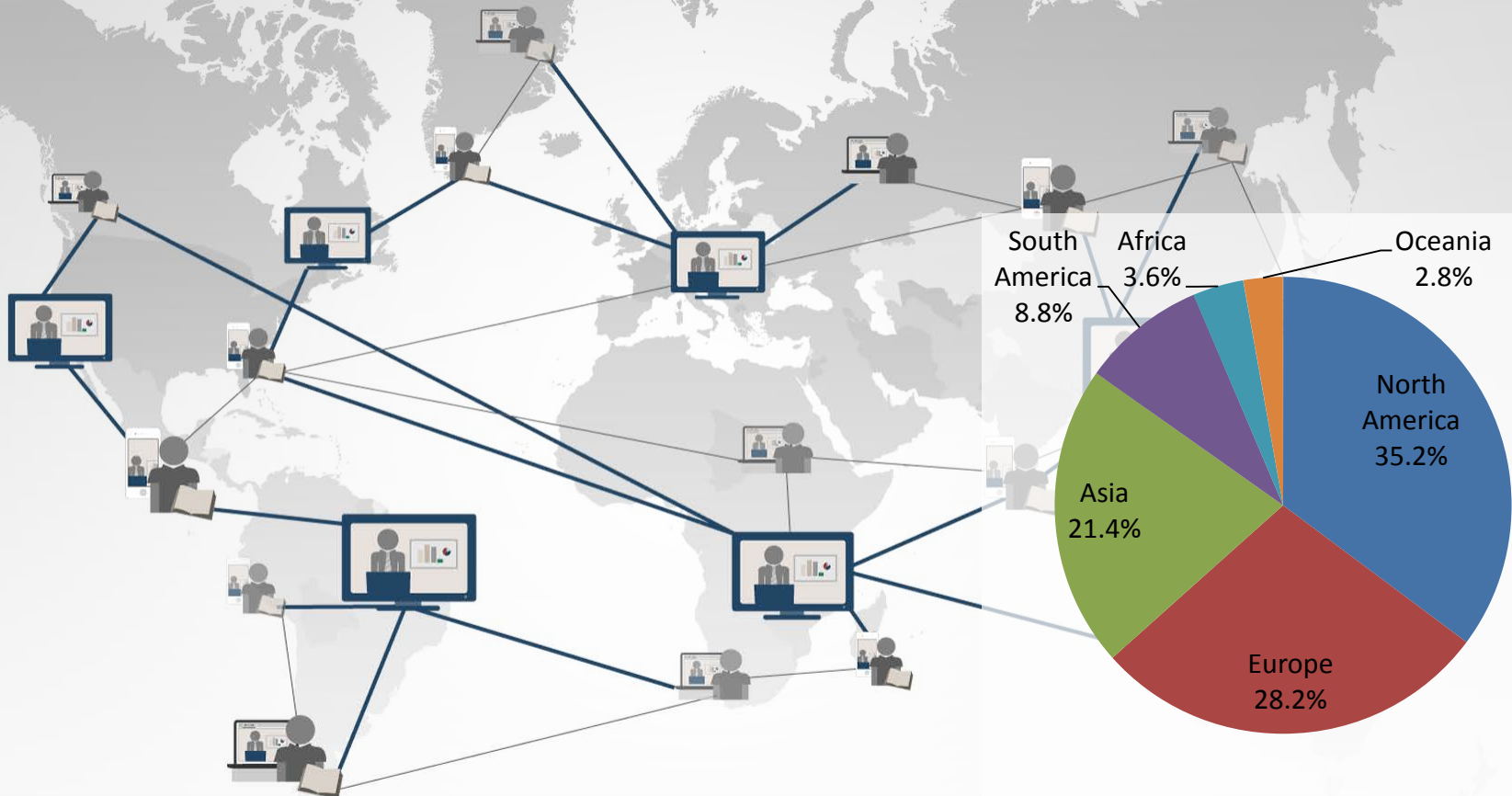
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