Utilizing IT Platforms to Enhance Youth Employment

SPEAKERS

- **Professor Jennifer DeBoer**, *Purdue University*
- **Dr. Hisham Kassab,** *Independent Consultant*

MODERATOR

- **Larry Cooley,** *MSI, A Tetra Tech Company*

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COMMUNITY OF PRACTICE

SCAN TO JOIN THE COMMUNITY OF PRACTICE!

Interlocks

Job Disciplines	Job Matching	Mentoring & Training

Case Study 1

Remote Employment of Local MENA STEM Workers

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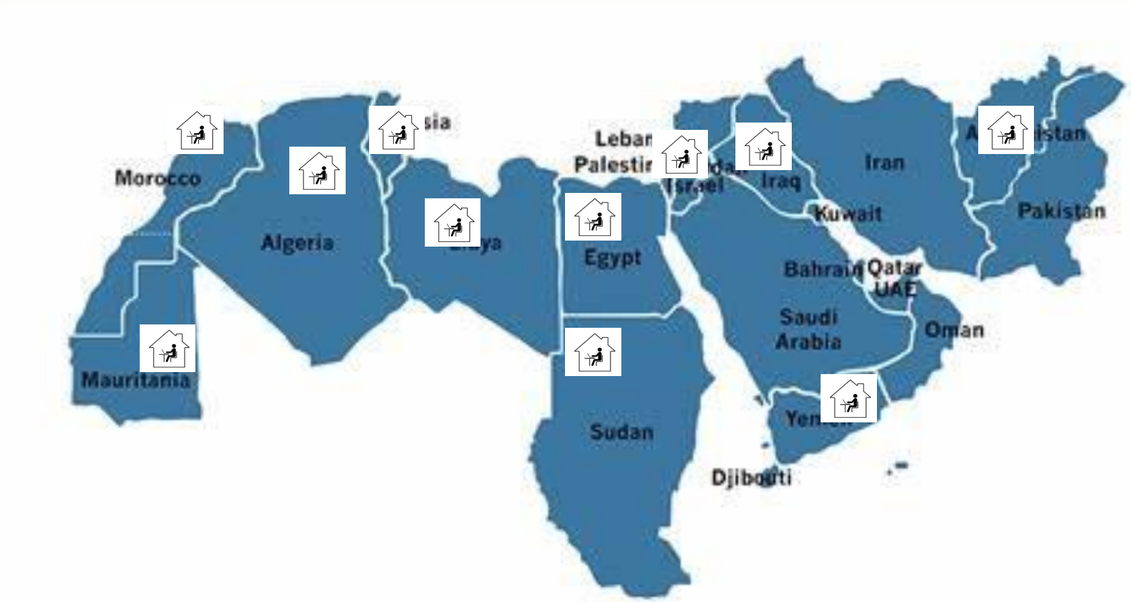
Vision: Local employees – remote employers



Local Employee

Remote Employer

Remote-Work Technology

Culture

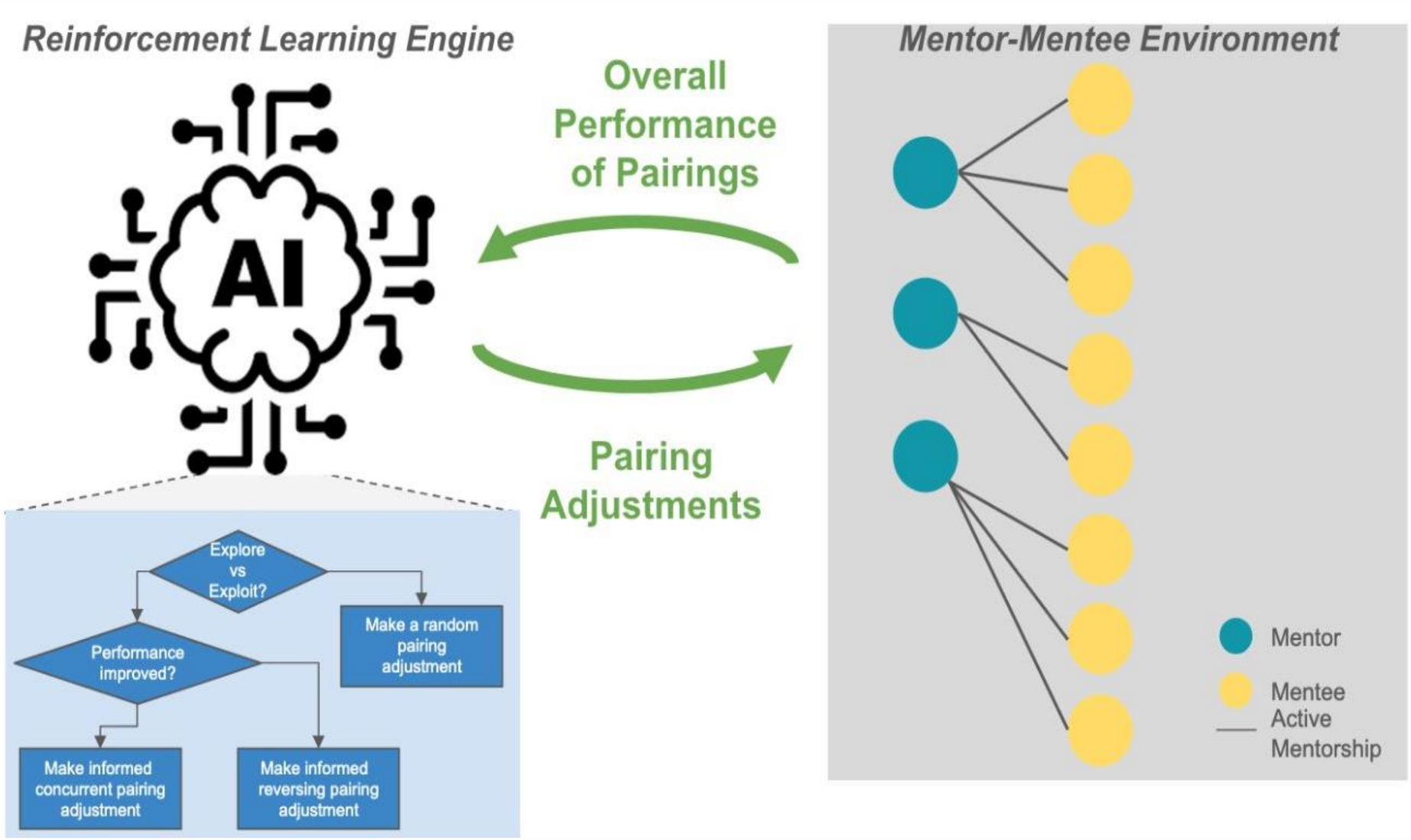
Wide acceptance accelerated by Covid

Highly productive for certain job families including software development

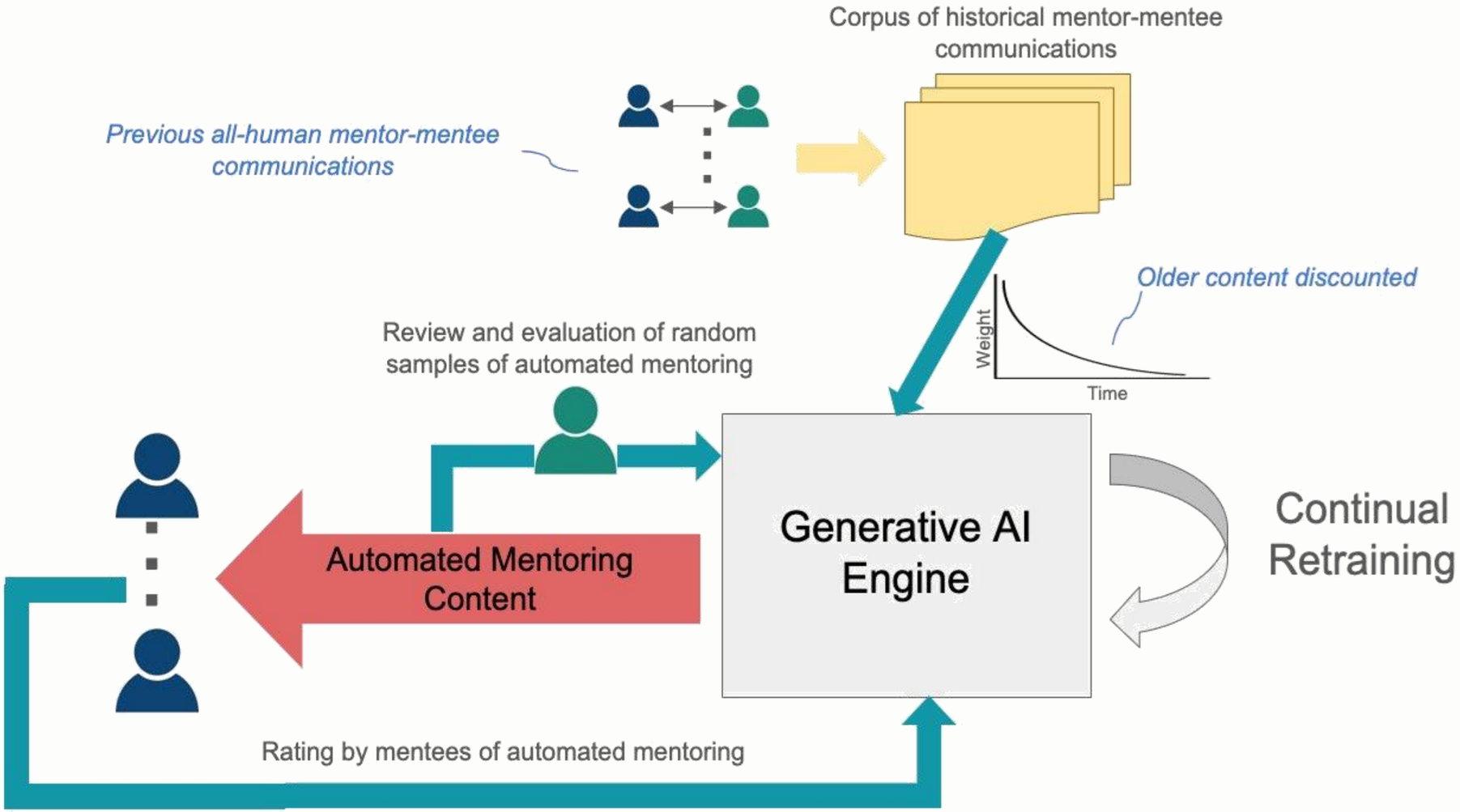
Collaboration across different international time zones increasingly common

Geographically Agnostic Remote Work a Reality Today

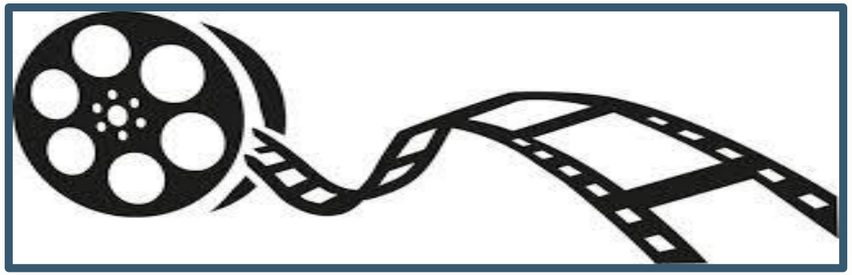
AI for *Mentor-Mentee Matching*



AI for *Scalable & Personalized Mentoring*

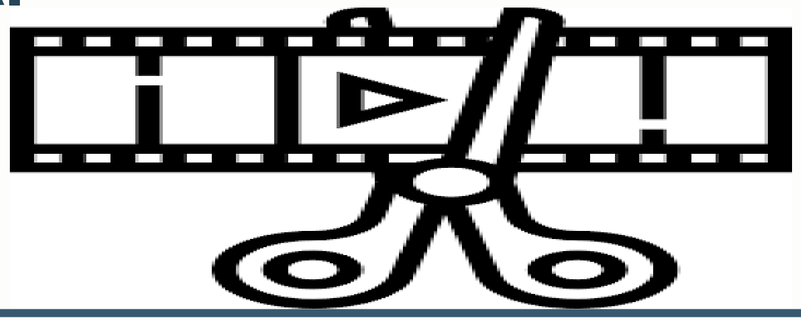


AI for *Scalable & Personalized Training and Upskilling*

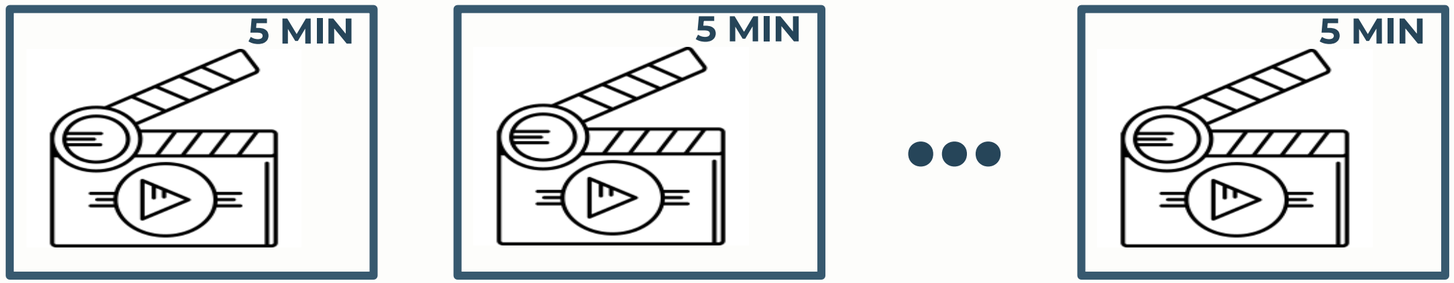


Raw Training Material

AI



- Previous trainings
- Previous test scores
- Self-identified needs
- Gender
- Home country
- Dialect
- Etc.



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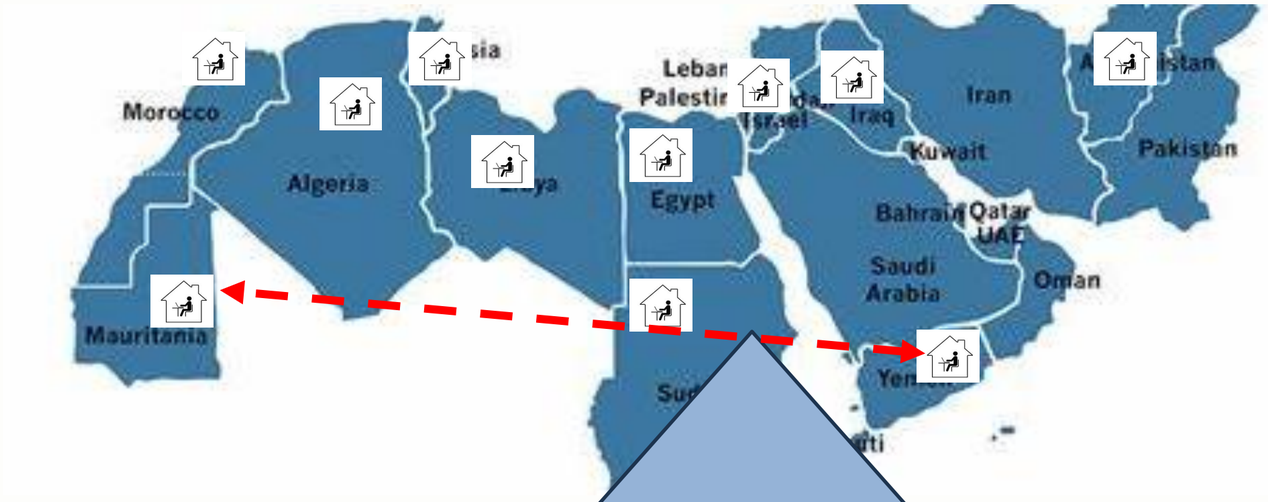
AI for *On-The-Job Learning and Peer Support*



Optimized AI Matching

- Subject matter need
- Countries
- Availability
- Previous connections
- Etc.

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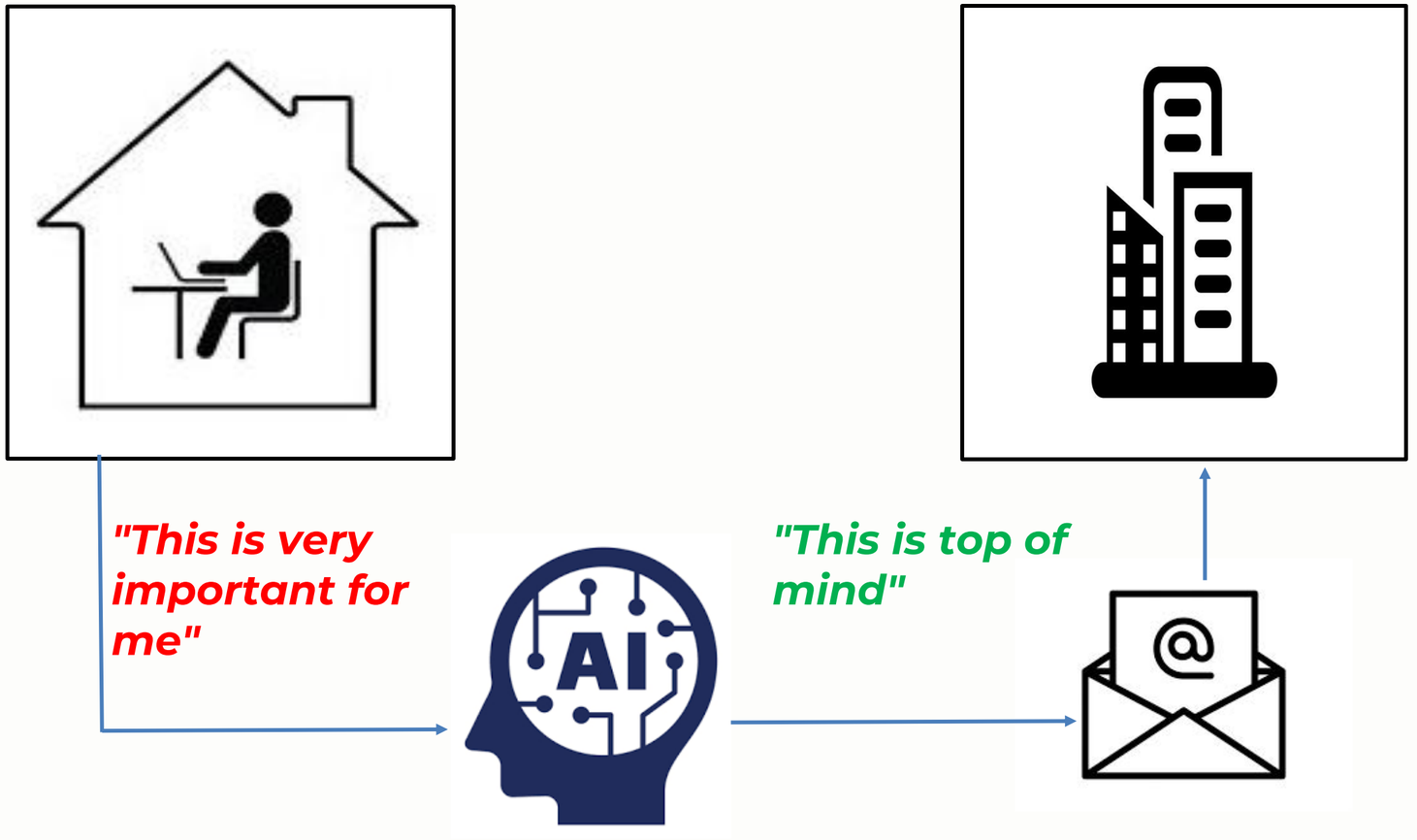
AI for *Empowering Corporate Communication*



Case Study 2

Jordan Cyber Academy

Program Schedule:

May 1– July 30: Weekly virtual training in the fundamentals of cybersecurity

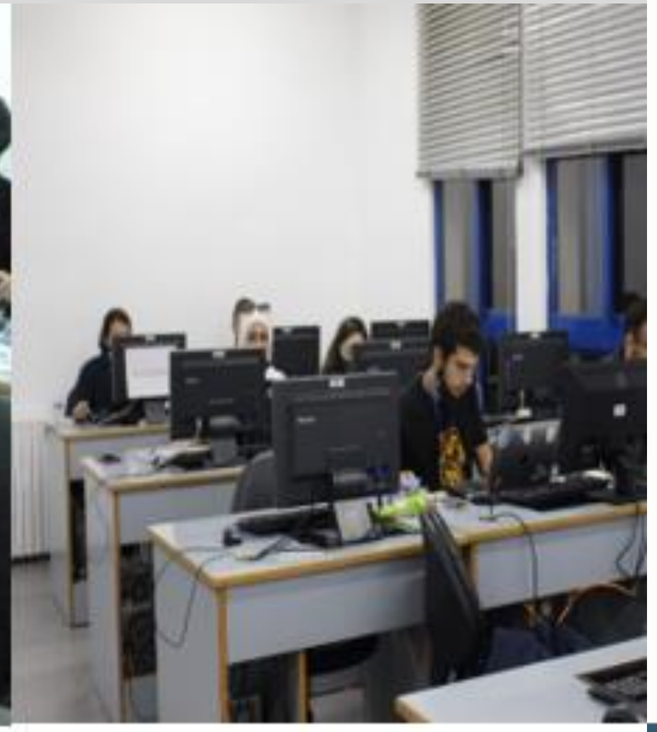
August 26–September 24: In-person cybersecurity boot camp at PSUT, Amman.

September 23 – December 13: Weekly virtual exploration of cybersecurity career paths, study and scholarship opportunities, and professional networking

PURDUE APPLIED RESEARCH INSTITUTE

Princess Sumaya University for Technology جامعة الأميرة سمية للتكنولوجيا

CYBERSECURITY Youth Academy for Jordan



Collaborative partnership for training in new data skills and Job Matching

instructors from Purdue University, Princess Sumaya University for Technology, and industry

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- Nature, scope, and urgency of cybersecurity landscape
- Types of threats and Basic preventive actions
- Introduction to cryptography
- Individual cybersecurity threats & precautions
- Enterprise-level cybersecurity systems & management

Curriculum

Program designed to: (1) give 50 Jordanian youths (18-24 year olds) foundational cyber skills training; (2) give the cohort exposure to 35+ recognized cyber career pathways

Recruiting began in Dec. 2023; 908 applications for 50 spots; final 50 includes students from every governorate of Jordan.

Phase 1

Virtual intro baseline of cyber knowledge

Phase 2

In-person boot camp

Phase 3

Virtual career exploration

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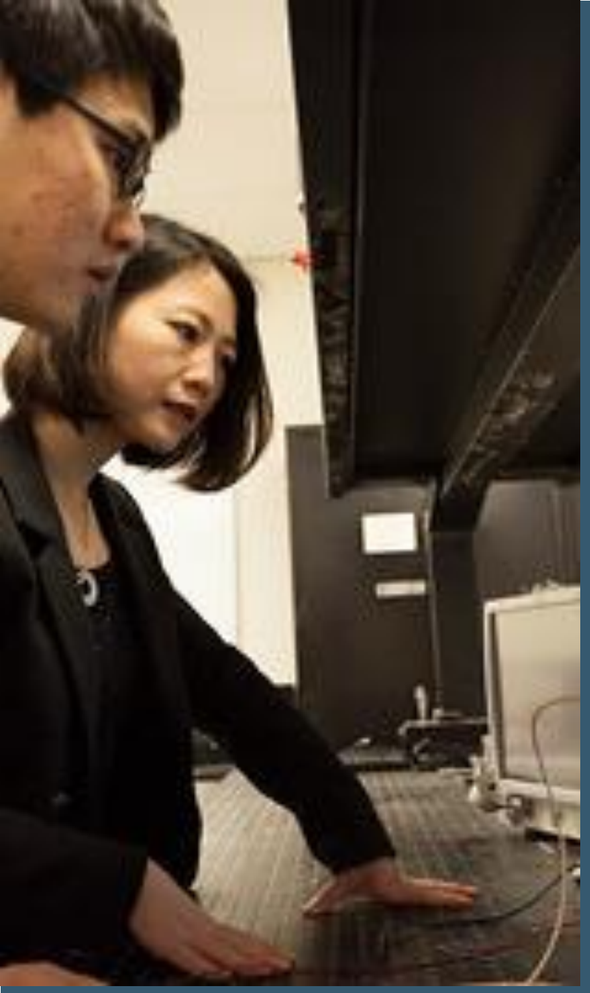
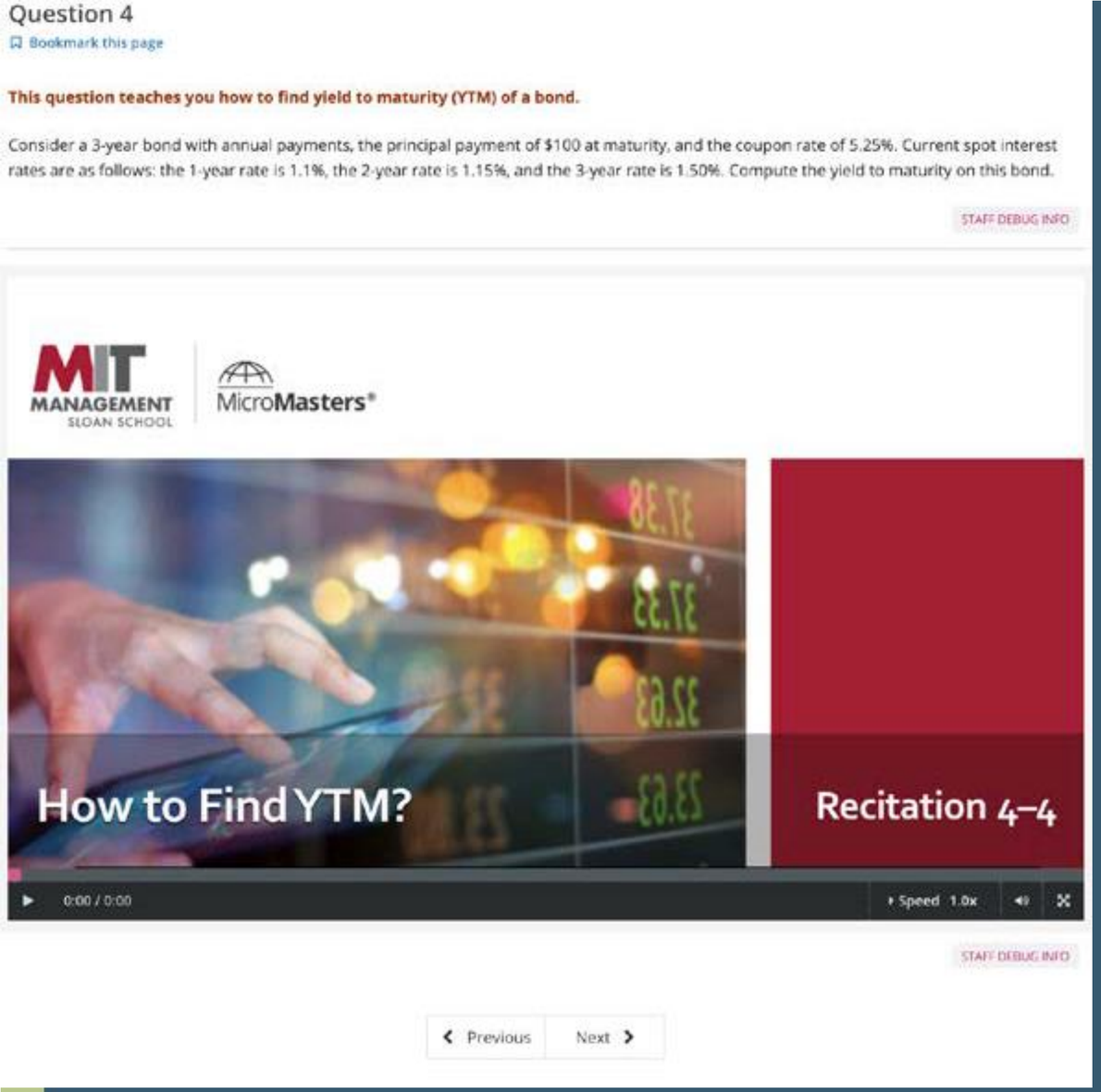


Industry mentors serve as…

- **Job shadow hosts:** small group of participants (1-5) at your company for four half-day sessions during boot camp
- **Career pathways speaker**: During the second virtual training session, speakers representing a broad range of cyber careers do a short presentation
- **Mentor**: Serve as a virtual mentor to participants following the boot camp
- **Scholarship provider**: opportunities for learners in the academy to gain industry credentials (eg. CISCO or CompTIA certifications)
- **Investor**: Over the long-term, build a more comprehensive cyber school that can serve more participants and create a broader pipeline of practitioners→investment.



Case Study 3

MIT Mfin MicroMasters

MicroMasters in Finance: Overview

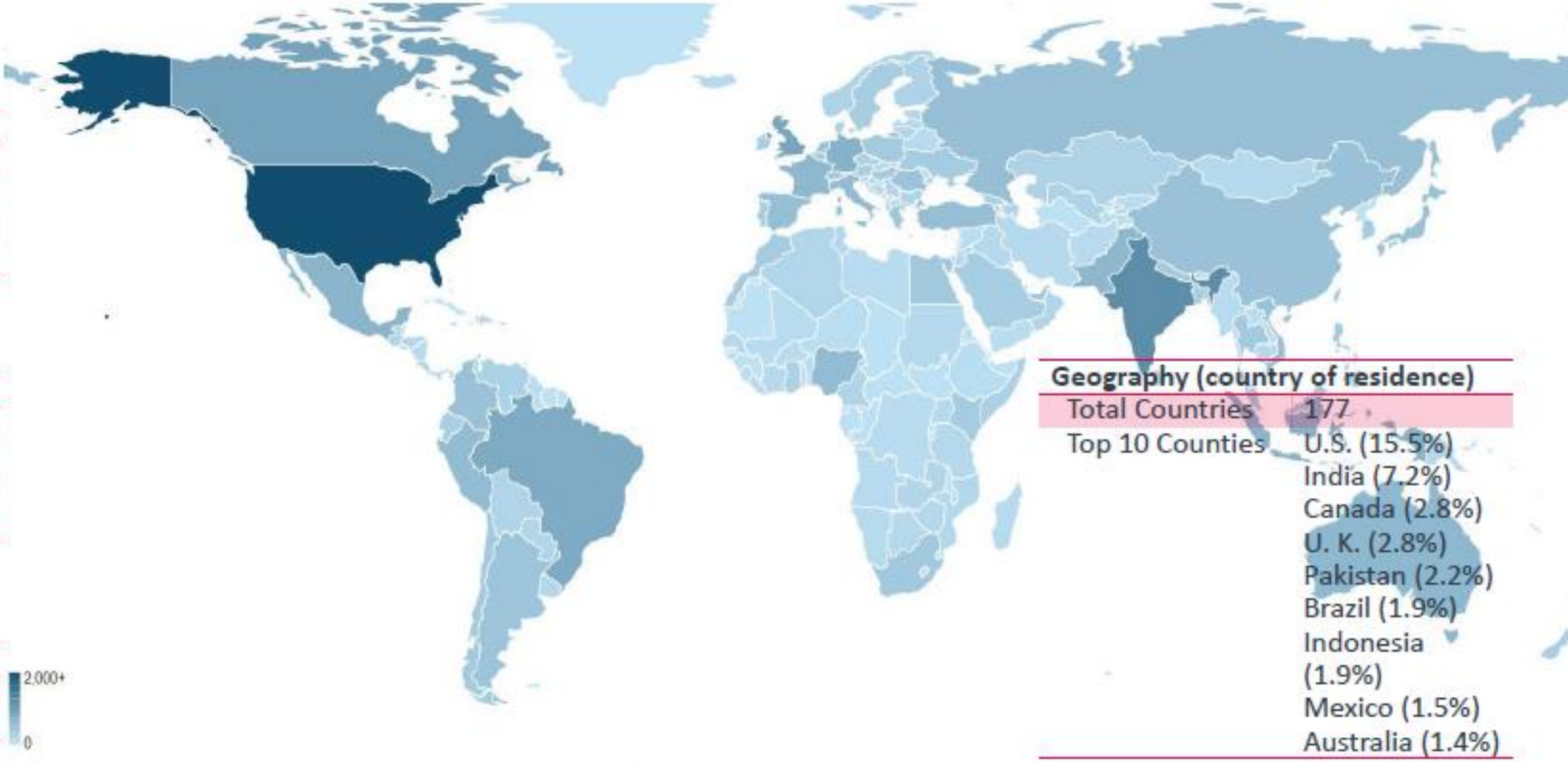
- 5 courses, 12 weeks each, $450 per course.
- 65,000 enrolled from 177 countries.
- Diverse demographics: college students, professionals, 15% of learners over 41 years of age.
- Median age: 29.

LEARNER DEMOGRAPHICS*

Age	
Median age	29
25 and under	34%
26 to 40	52%
41 and over	14%

Education	
High school or less	20%
College Degree	46%
Advanced Degree	33%
Other	1%

Gender	
Female	24%
Male	76%

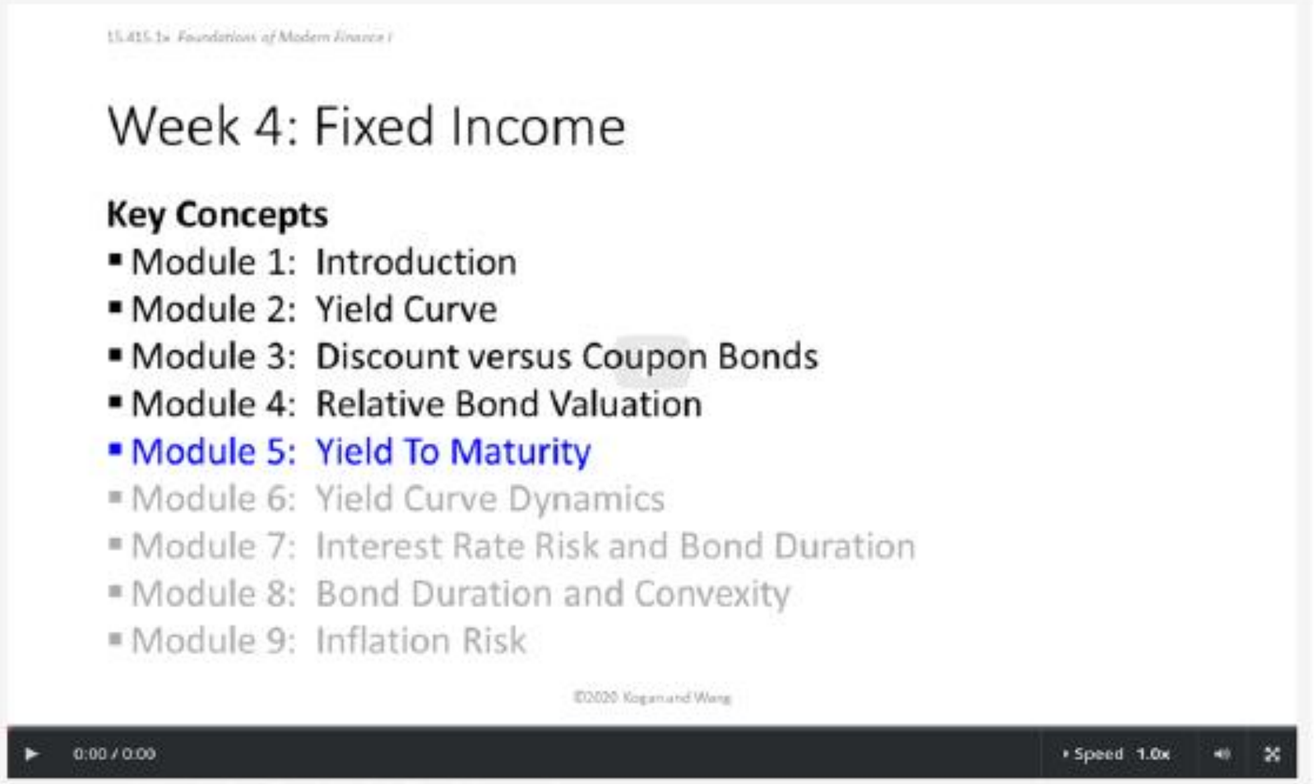


Geography (country of residence)	
Total Countries	177
Top 10 Counties	U.S. (15.5%) India (7.2%) Canada (2.8%) U. K. (2.8%) Pakistan (2.2%) Brazil (1.9%) Indonesia (1.9%) Mexico (1.5%) Australia (1.4%)

*Enrollments for 15.415.1x of October 14, 2020. Currently representative of demographics across all five courses. Demographic information for individual courses is available upon request. All data is self-reported.

MODULAR STRUCTURE & FEEDBACK TOOLS

Video



Concept Check 1

1 point possible (ungraded)

Consider a two-year discount bond. One- and two-year spot interest rates are r_1 and r_2. Does the yield to maturity on this bond depend on r_1?

- Yes
- No ✔

Explanation
By definition, yield to maturity on this bond equals r_2, and hence does not depend on r_1.

Submit You have used 0 of 1 attempt

Save Show Answer

Concept Check 2

1/1 point (ungraded)

Holding everything else equal, yield to maturity is increasing with the bond coupon rate:

- Always true.
- Always false.
- Depends on the yield curve. ✔

Explanation
Yield to maturity (YTM) is determined by the spot interest rates across maturities, and by the bond coupon rate and maturity. YTM is a nonlinear average of spot interest rates. As we change the coupon rate, the direction of the resulting impact on the YTM depends on the current yield curve.
As an example, suppose the spot interest rates are

$$r_1 = 5\%, r_2 = 3\%$$

and consider two bonds, both maturing in two years. Bond A pays no coupons (coupon rate is zero). Bond B pays a 5% coupon.
YTM of bond A is 3%, YTM of bond B is 3.05% -- YTM is higher for the bond with a higher coupon rate.
Next, change the yield curve to

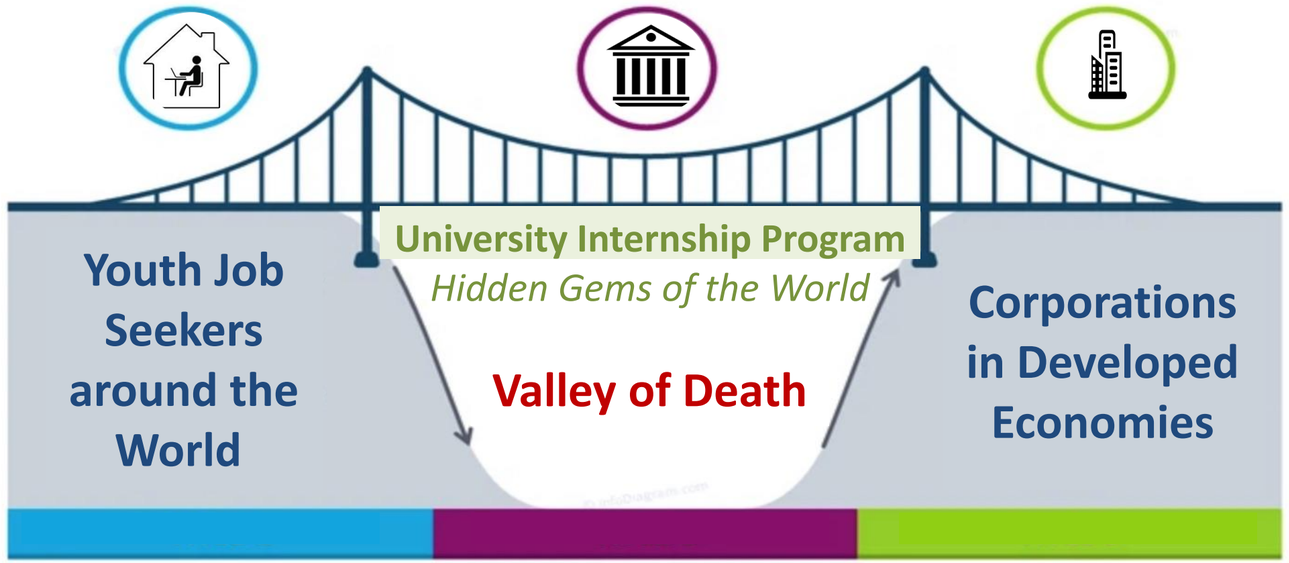
$$r_1 = 3\%, r_2 = 5\%$$

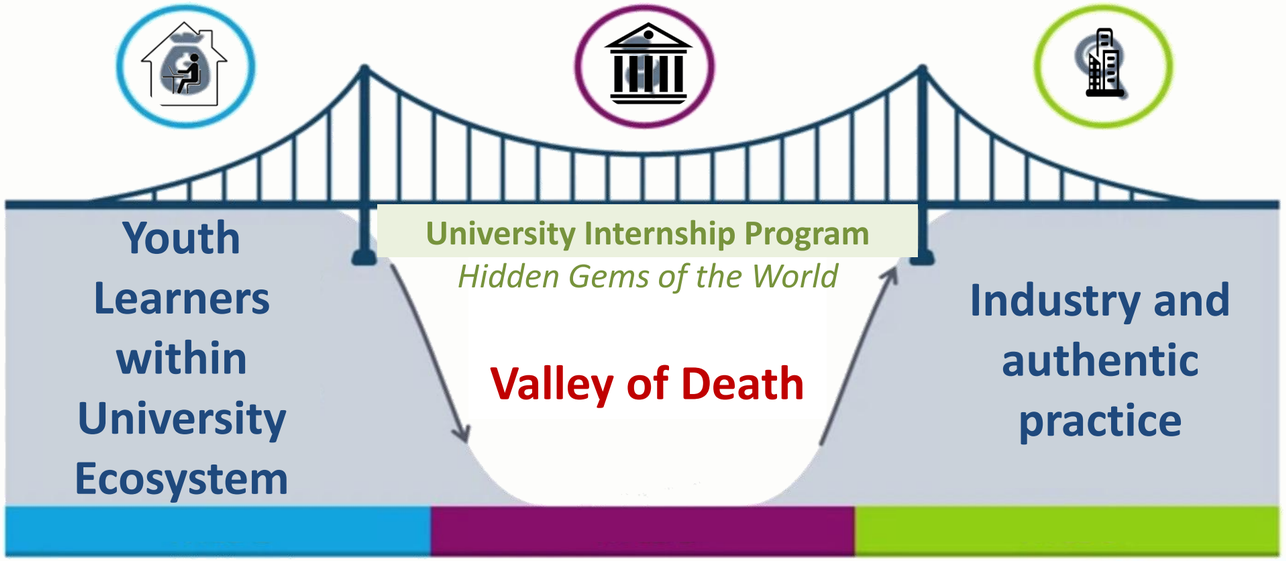
and consider the same two bonds. YTM of bond A is 5%, YTM of bond B is 4.95% -- YTM is lower for the bond with a higher coupon rate.

Submit You have used 1 of 1 attempt

Show Answer

The Power of Internships





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