Epicenter for Action Research

Transforming Education and
Research into Service to the World

UCLA

Design Thinking Tech Bootcamp Presentation

TCC 2023 Worldwide Online Conference

Raffi Simonian

*Executive Director,
UCLA Epicenter for
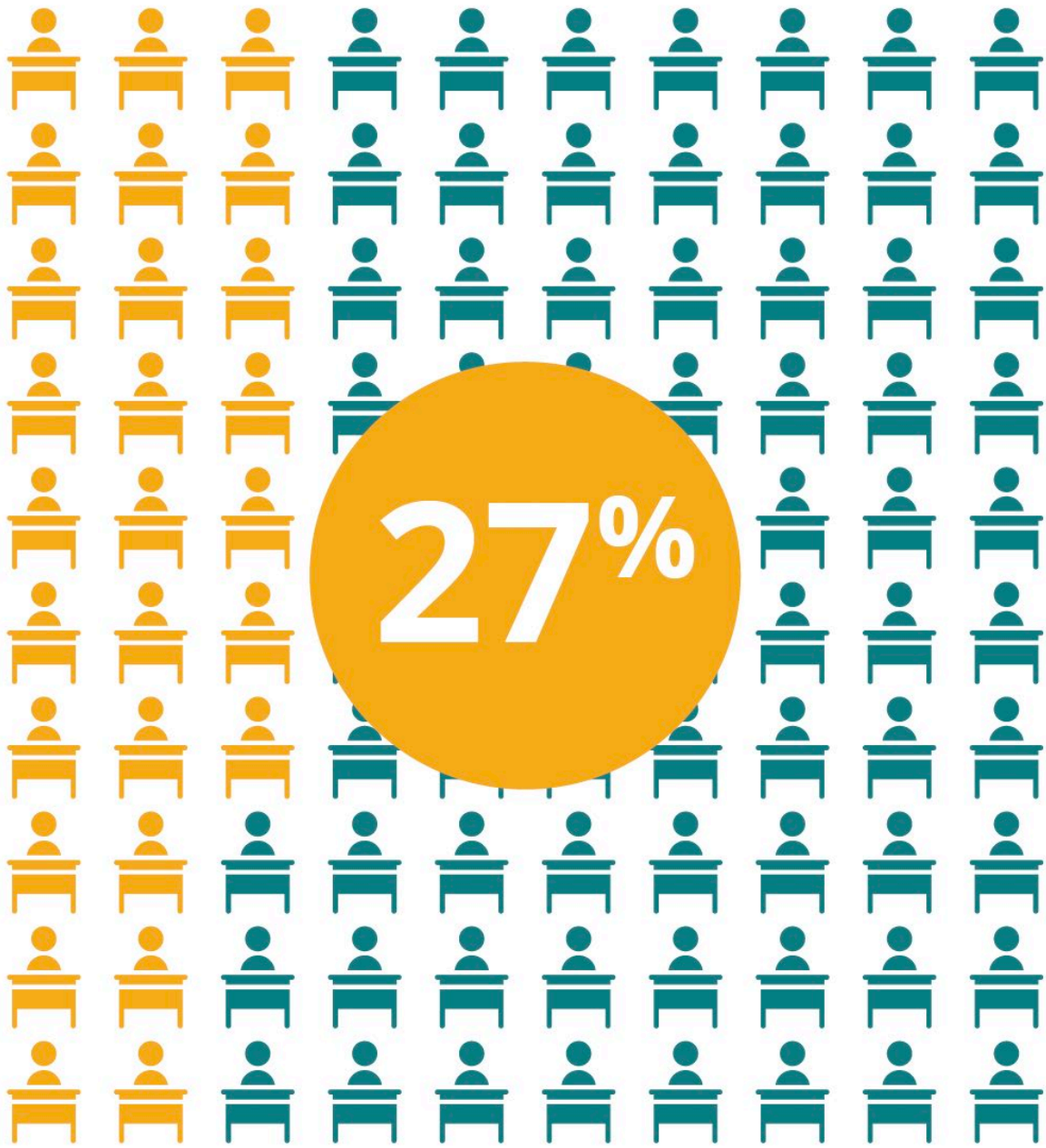Action Research/
Adjunct Instructor*

rsimonian@ucla.edu

https://raffi-simonian.notion.site

Higher Education Industry Facts

10%

Percent of business leaders who believe schools effectively prepare students for the workforce

27%

Percent of college students who secure a good job before graduation

40%

Percent of graduates who are underemployed in their first job

Source: University Innovation Alliance

Bridge the gap between students & industry

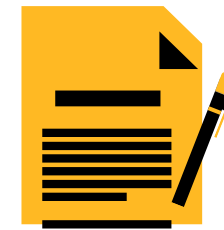**Plenty of Social Impact & Business problems to solve in our own backyard**

Students partnering with Industry can solve these problems, but we need to bridge that gap...

Project-Based Innovation

Students partner with community organizations to create socially impactful innovative solutions
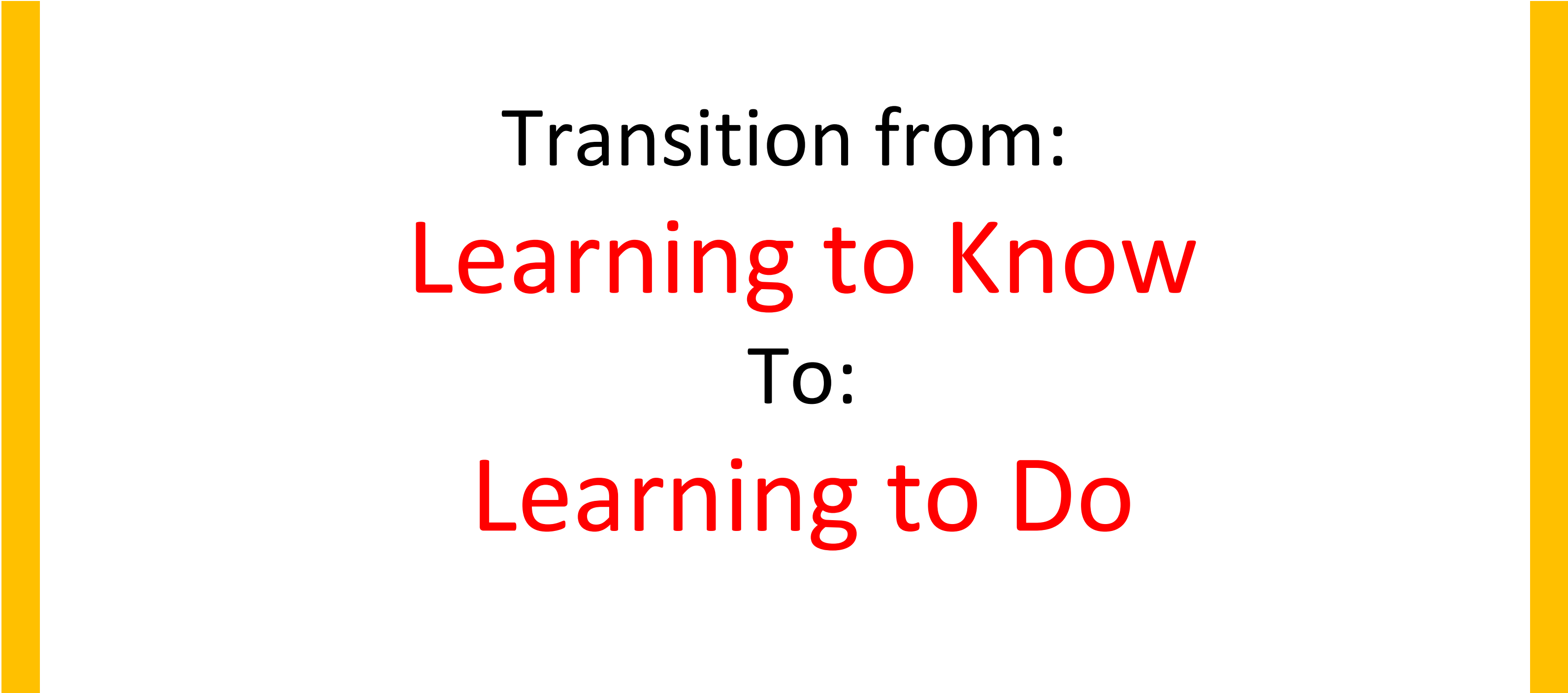
Employment & Internship opportunities

Students network with industry coaches, speakers and session experts for internship and employment opportunities

Development of Talent

Students learn modern business, digital and human skills in a hands-on experiential learning environment
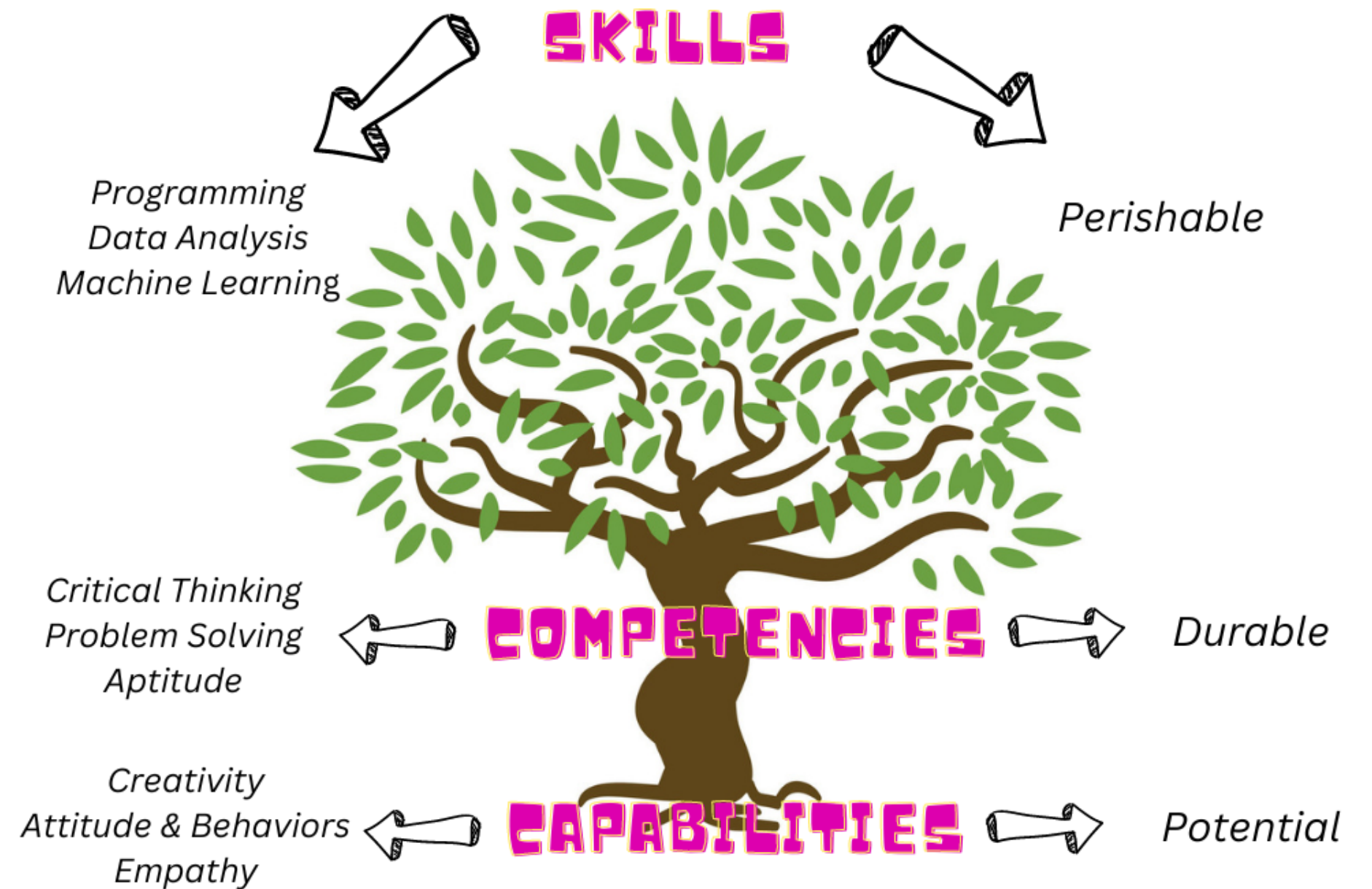
Transition from:

Learning to Know

To:

Learning to Do

Program Benefits to Students

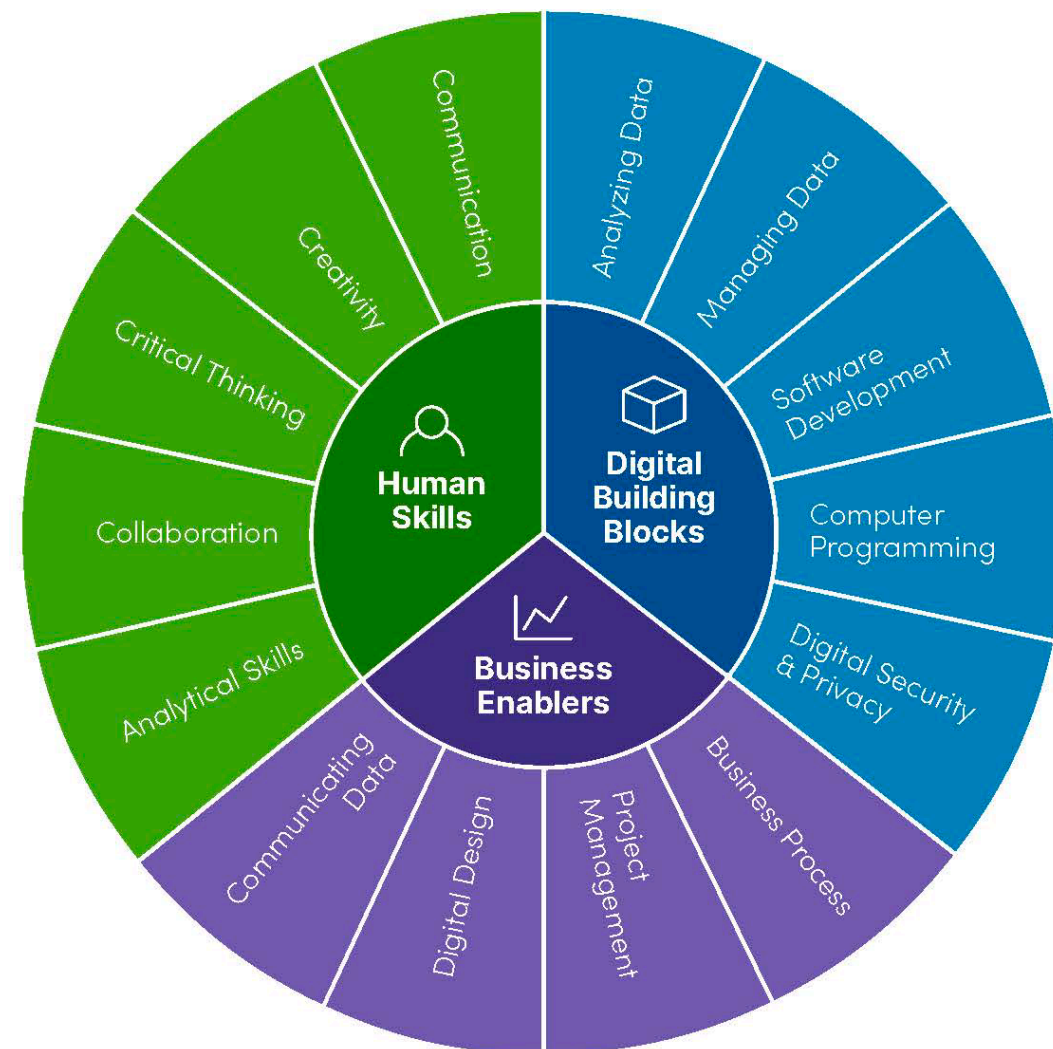Develop "Professional Readiness" Talent
➔ = *Skills + Competencies + Capabilities*

Transition them from:
Learning to Know

Learning to Do

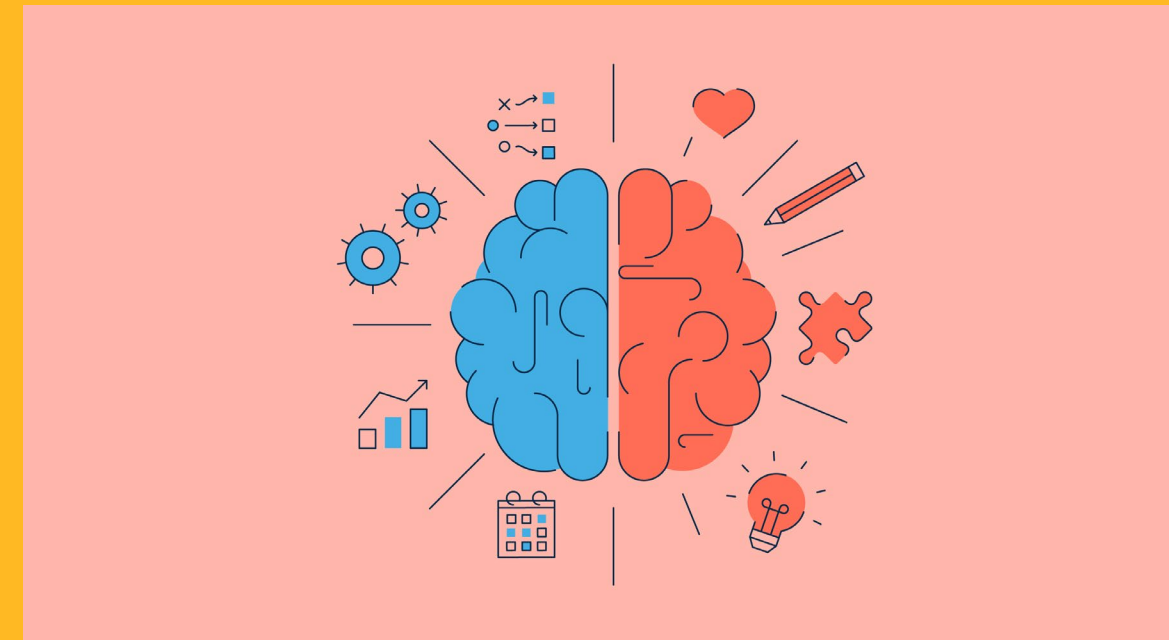Secure Internships & Full Time Employment with Hiring Managers

SKILLS

Programming
Data Analysis
Machine Learning

Perishable

COMPETENCIES

Critical Thinking
Problem Solving
Aptitude

Durable

CAPABILITIES

Creativity
Attitude & Behaviors
Empathy

Potential

Most In-Demand Skills:
A Mix of Tech and Human Skills

These 14 skills are in high demand both for digitally intensive jobs and the wider economy.

Human Skills
- Communication
- Creativity
- Critical Thinking
- Collaboration
- Analytical Skills

Digital Building Blocks
- Analyzing Data
- Managing Data
- Software Development
- Computer Programming
- Digital Security & Privacy

Business Enablers
- Communicating Data
- Digital Design
- Project Management
- Business Process

Source: Burning Glass Institute

Jeff Selingo
jeffselingo.com

Program Benefits to Industry Partners

Get your business problems solved by students at a fraction of outsourcing costs

Recruit "Professionally Ready" talent minimizing on-boarding time & cost

Hear solutions & product insights from your future customers (Gen Z)

Bootcamp Approach

Connected Sessions
All sessions are connected with a defined curriculum

Session Speakers
Industry speakers present digital and business topics

Student Teams
All students work in teams of 7 from diverse backgrounds

Session Experts
Industry session experts help students bounce ideas off

Team Coaches
All teams are coached by industry leaders

Demo Day
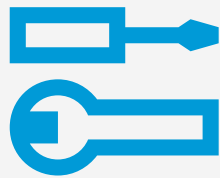Students present their solutions to industry judges

Design thinking integrates people, technology and business
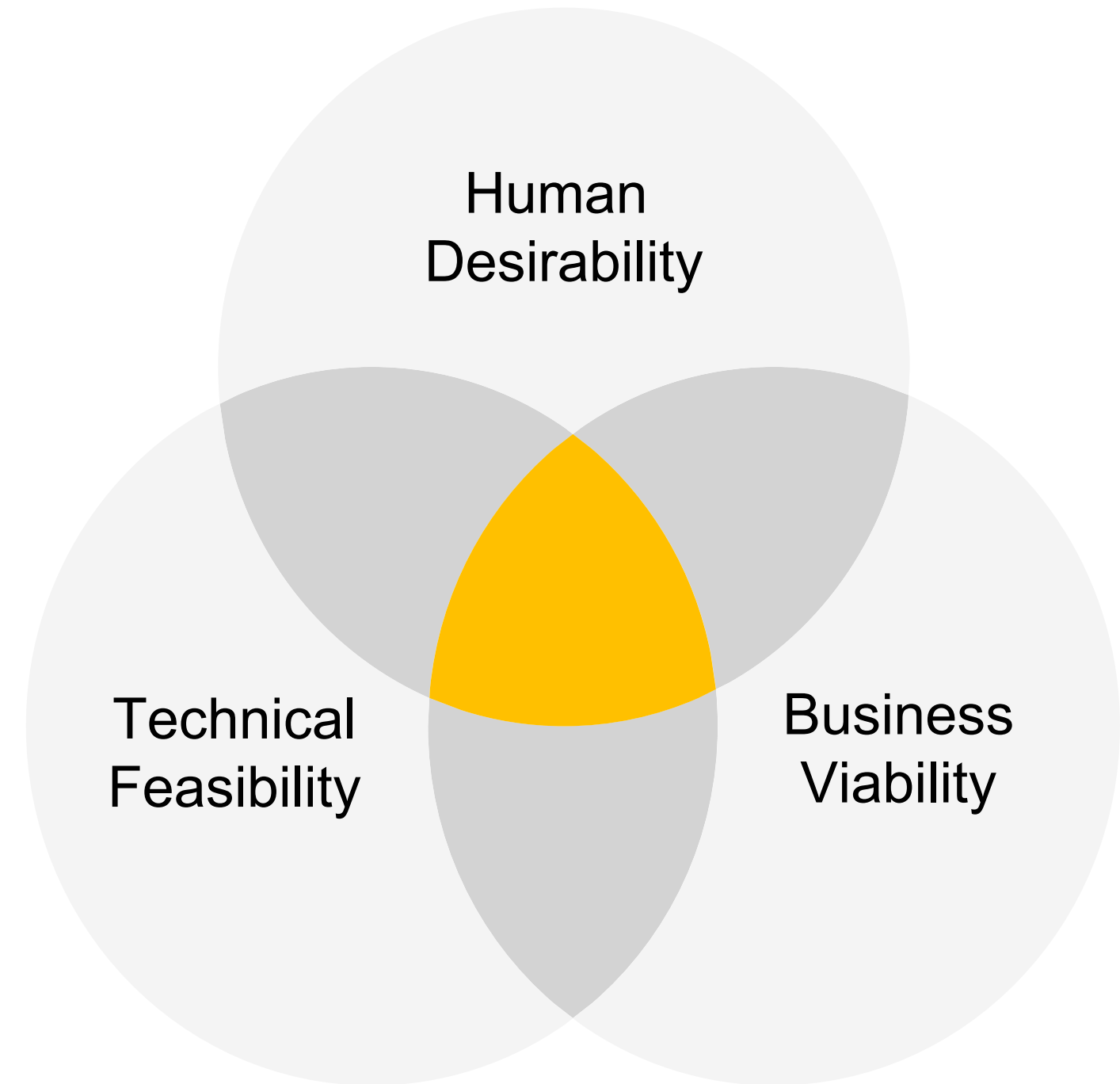
Human Desirability
What do people want?

Technical Feasibility
What is technically or
organizationally possible?

Business Viability
What is financially doable?

Human
Desirability

Technical
Feasibility

Business
Viability

Design thinking is based on six mindsets

Empathy
Only through empathy with people can you design solutions for them.

Show, Don't Tell
To bring your ideas to life, show instead of telling.

Experiment
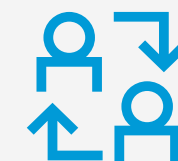Make your ideas real and learn from peoples' reactions to your prototype.

Be Mindful of Process
Be mindful of process, and know where you are in it.

Action-oriented
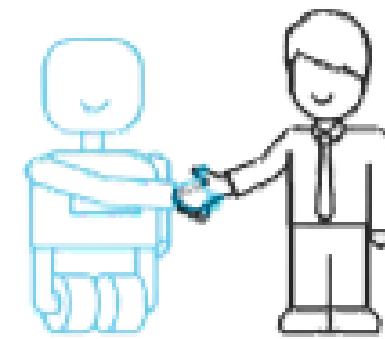Thinking is important, but doing even more so.

Collaboration
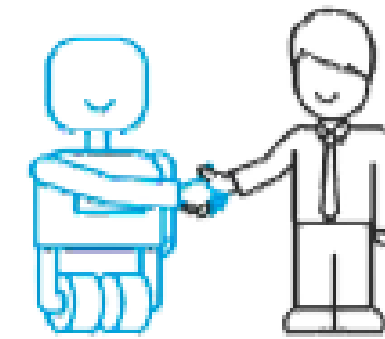Bring together innovators with varied viewpoints and backgrounds.

Bootcamp Theme

The Design Thinking Tech Bootcamp can propose a problem prompt (Metaverse, XR, eCommerce, etc.)
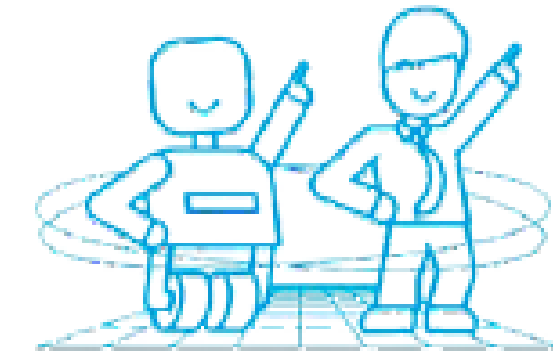

Augmented Reality (AR)
a view of the physical world with an **overlay** of **digital** elements

Mixed Reality (MR)
a view of the physical world with an overlay of **digital** elements where physical and digital elements can **interact**

Virtual Reality (VR)
a **fully-immersive digital** environment

Or the students can ideate and prototype on their own:
- ➢ CivicTech
- ➢ EdTech
- ➢ HealthTech
- ➢ SocialTech

Sample Problem Statements (local government)

Category	Problem Statement	Project Deliverables
Homelessness Shelters GIS Mapping	Currently, no mobile app exists that lists shelter information nearby: 1. Location of shelter 2. Transportation mode to that shelter 3. Bed availability (real time data does not exist)	Develop a mobile application which can provide homeless user a list of homeless shelters nearby on the map. Clicking on the shelter can provide contact details and real time bed availability (if available).
Prioritize Restaurant Inspections	Food borne illness is a significant public health problem. County staff inspect every restaurant in the County at least once a year, but inspections do not prioritize restaurants that could be at the highest risk of committing serious food safety violations, which could increase the risk of food borne infections.	Having a system to identify high-risk facilities and prioritize their inspections could improve public health in the County. The same can be applied for pools, molds in buildings etc.
Emergency Calls: Analyze Data to Find Trends	How the LA County Fire department can be more responsive to fires?	Analyze emergency incident data and present 3-4 recommendations or observations for fire department calls

Weekly Presentation Topics & Selection Criteria

- ❖ Productivity Tools
- ❖ Project Management
- ❖ UI/UX
- ❖ Design Thinking
- ❖ Data Analytics
- ❖ Communication, Teamwork & Conflict Resolution
- ❖ How to Pitch
- ❖ Marketing Strategy
- ❖ Thinking Like an Entrepreneur

- ✓ "Why" question on application
- ✓ Interest/passion for innovative problem solving
- ✓ Social impact/volunteerism experience
- ✓ Entrepreneurship/leadership experience

Resources

- <u>UCLA Design Thinking Tech Bootcamp which is now officially a UCLA Upper Division Engineering Course (ENGR 170)</u>
    - <u>UCLA Daily Bruin May 2022 Article About the Bootcamp</u>

- <u>AWS, Slalom & UCLA Innovation Challenge</u>

- <u>American University of Kurdistan Tech Bootcamp</u>

- <u>Los Angeles City College Tech Bootcamp Program</u>
    - <u>Team Offices</u>
    - <u>Training Center</u>
    - <u>Welcome Center</u>
    - <u>Counseling Center</u>