# Cultivating Tomorrow's Engineers through the Entertainment & Hospitality Landscape AWARD #2115331

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Project website link: https://stemlab.sites.unlv.edu/

## **Project Description**

Intensive 3-week summer program for engaging middle school students of levels 6,7 and 8 into informal and formal STEM learning through demonstration and implementation of fun engineering projects in entertainment and hospitality (Vegas STEM Lab).

#### **Key Achievements**

- Developed an intensive 3-week summer STEM experience with alternating learning modes and activities.
- Studied burgeoning STEM identity through 5 constructs of Dynamic Systems Model of Role Identity: Ontological & Epistemological Beliefs, Purpose and Goals, Emotion, Self-Perceptions & Definitions, Perceived Action Possibilities.
- Broader impact: Validated approach to demonstrate the ubiquity of engineering methods and foster STEM learning. Identified activities leading to the highest levels of identity development.

### Audience & Settings

**Audience:** 70 Middle school students of grades 6,7, and 8 of Clark County School District.

**Disciplinary area**: General STEM with the focus on entertainment and hospitality engineering.

Learning environment: Field trips to industry sites, interviews of industry and academia professionals, classroom interactive and team learning, variety of design tools: CAD, coding, sensors, microcontrollers, motors, robots, drones, design instruments and demo projects. 18 Undergraduate and graduate student and faculty mentors of different age, gender, ethnicity and race.

#### Access and Inclusion

Targeted schools with majority of underrepresented groups.

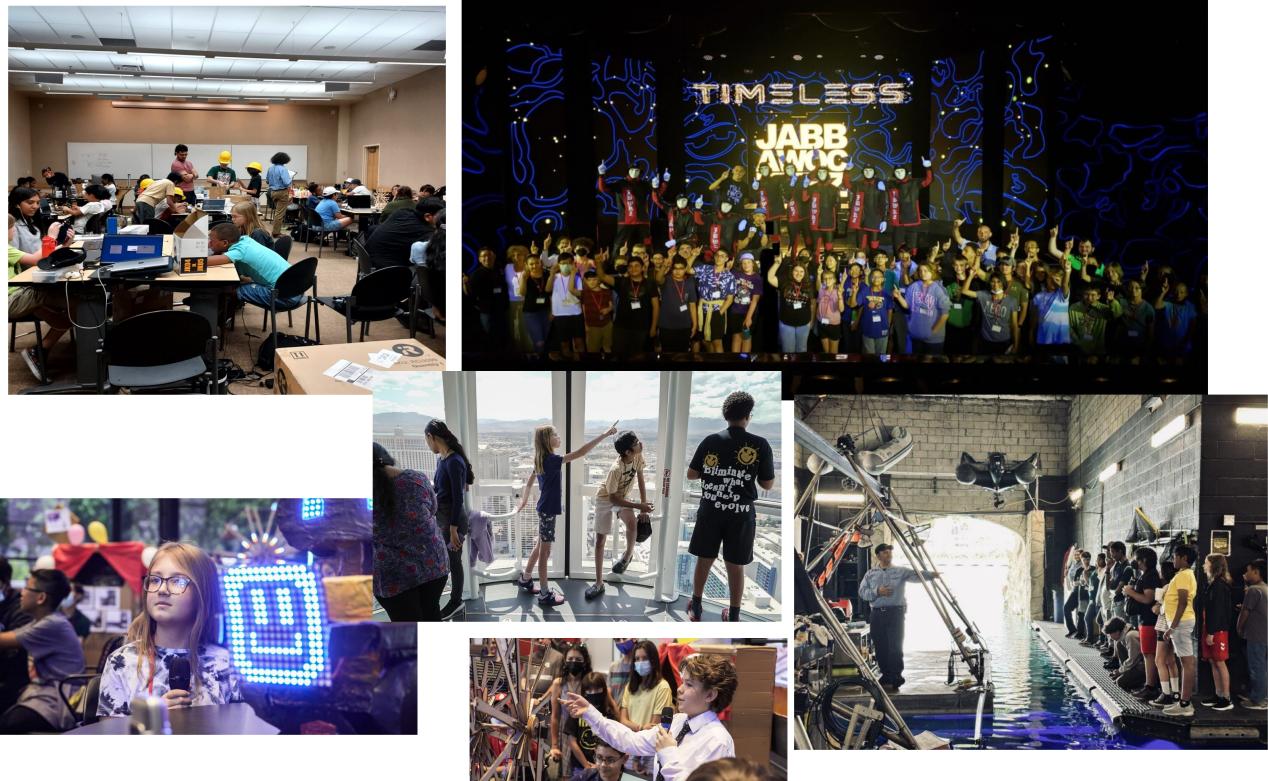
- 1st Year: 18% female, 2% non-binary, 19 %
  Black, 19% Hispanic, 52% White.
- 2<sup>nd</sup> year: 38% Female, 29 % Asian, 20 %
  Black, 29 % Hispanic, 1% multiracial and non-Hispanic, 21% white,



**Cultivating Tomorrow's Engineers through the** Entertainment & Hospitality Landscape AWARD Any opinions, findings, and conclusions or recommendations expressed in this material are #2115331

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Year 1 Youtube video (short): https://www.youtube.com/watch?v=KSvEksxHpdc

Year 2 youtube video (short): https://youtu.be/nJ1AqeggDlk