



DAKOTA STATE
UNIVERSITY

AI, BIG DATA, & SOCIAL IMPACT:

ROLE OF ACADEMIC INSTITUTIONS IN ADDRESSING GLOBAL CHALLENGES

Presented at the SIREUS Chancellors Forum on February 22, 2023

AI ALGORITHMS

MACHINE LEARNING

INTELLIGENT AGENTS

ARTIFICIAL NEURAL NETWORKS

LANGUAGE LEARNING MODELS

GENERATIVE SCIENCE

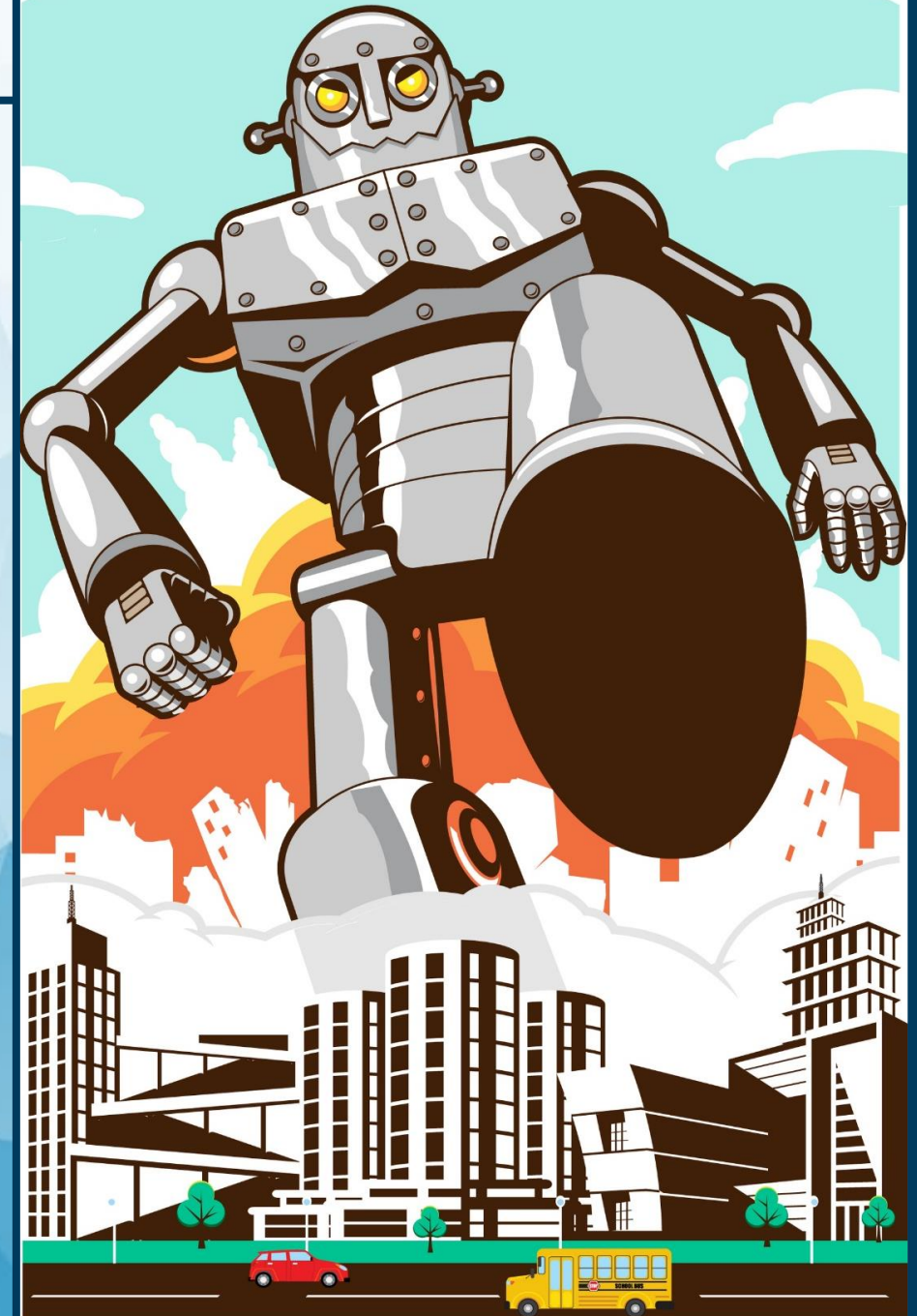
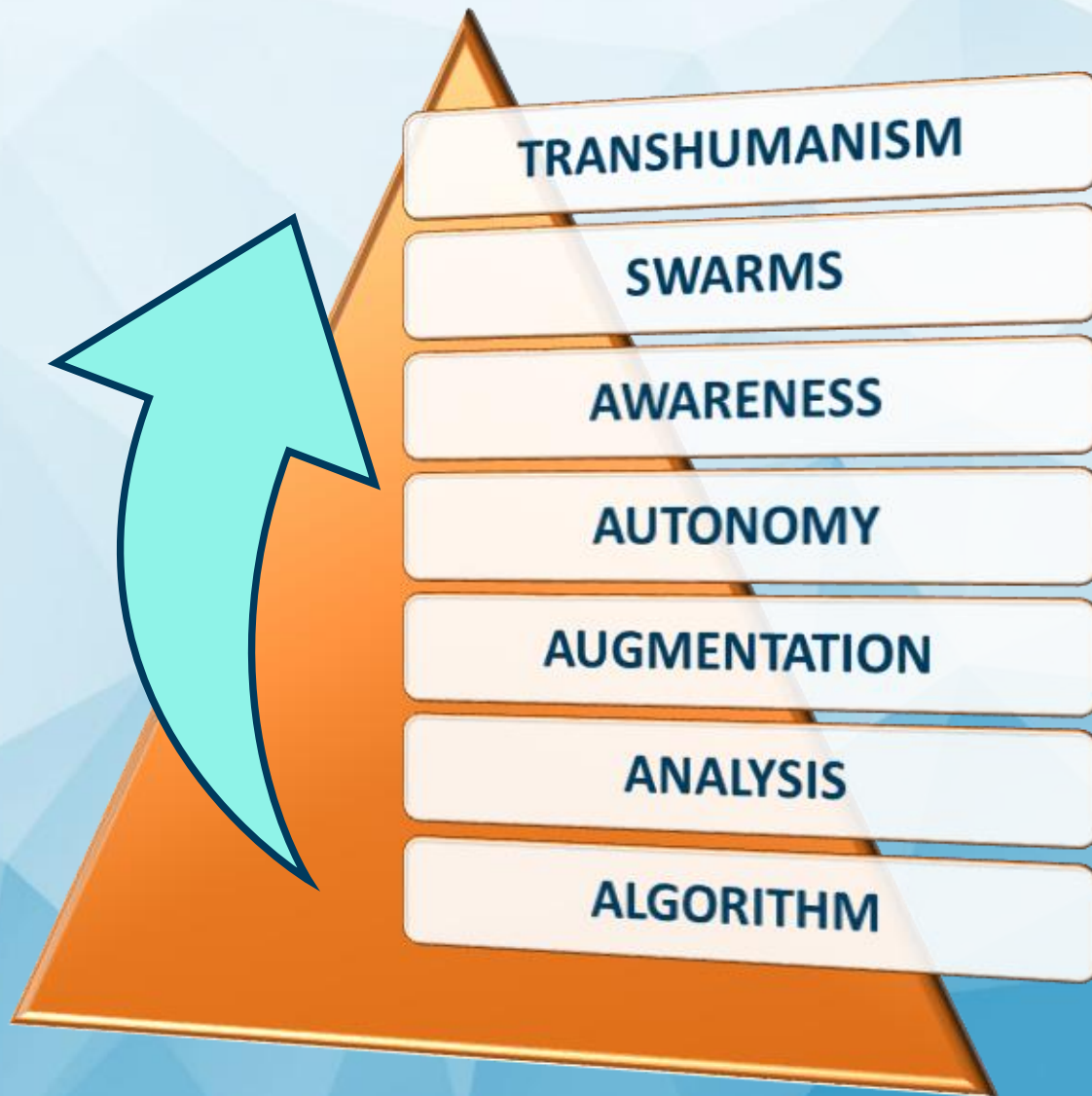
AI CONTROLS

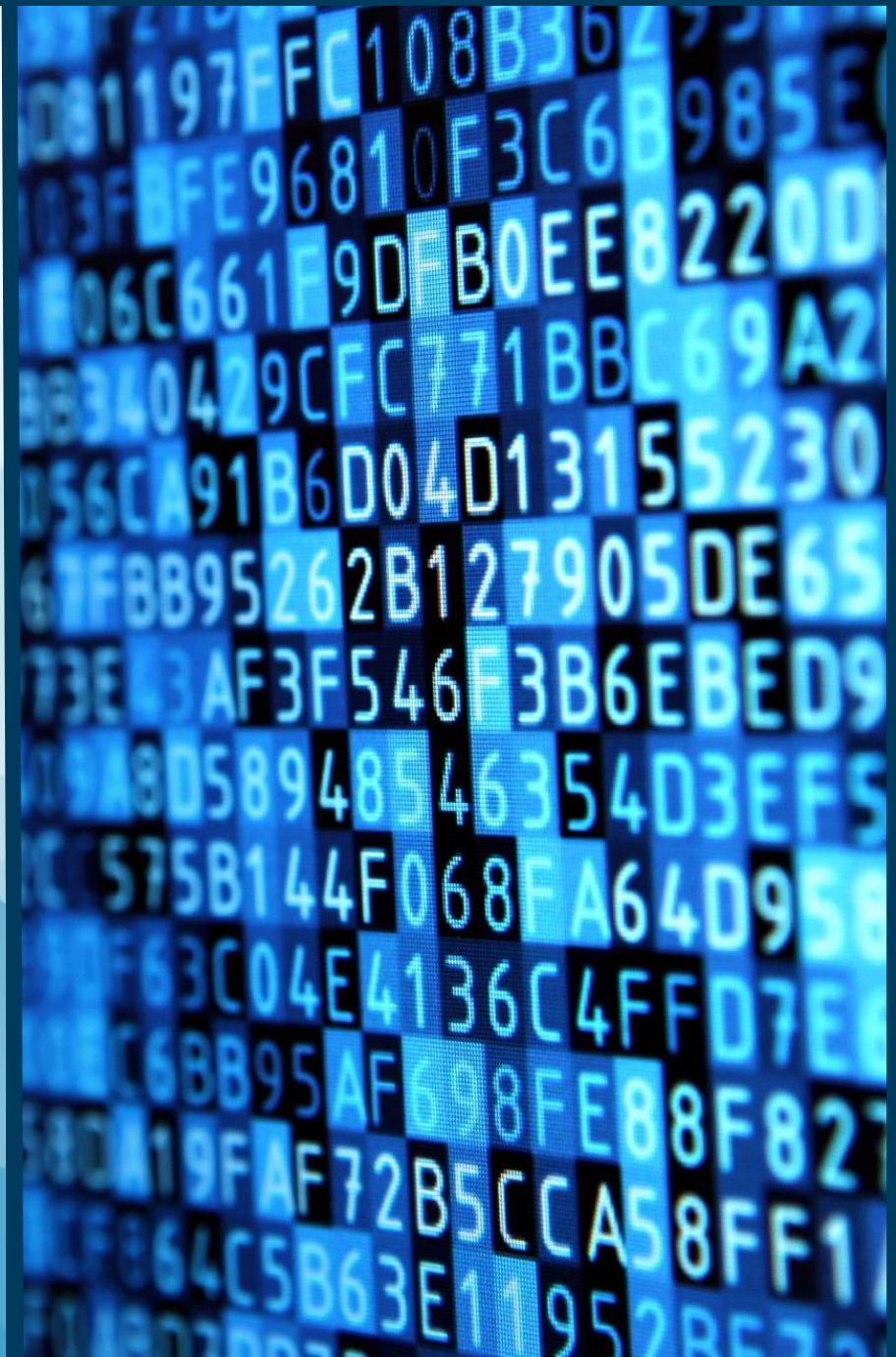
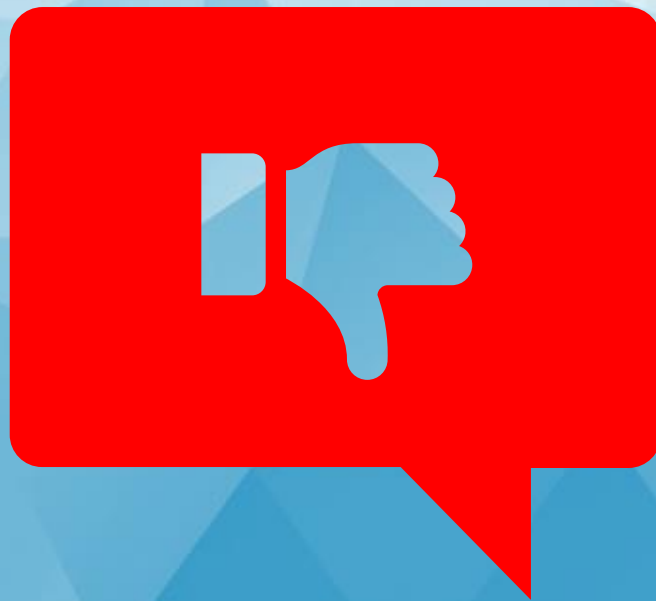




EVERYDAY AI

STAGES OF AI DEVELOPMENT





**PROMISE OF TECH
ADVANCEMENT &
MASS DEPLOYMENT**

DIGITAL/AI DIVIDE

**REDUCTION IN
HUMAN
ERROR/BIAS**

**ACCENTUATION OF
INBUILT BIAS IN
ALGORITHMS OR DATA**

**QUALITY OF
LIFE BENEFITS**

**REDUCTION IN
INDIVIDUAL
FREEDOMS**

**24/7
AVAILABILITY &
PRODUCTIVITY**

**SELF-ORGANIZING &
LEARNING SWARMS**

**ZERO RISK
BOMB DEFUSION OR
WRECKAGE SEARCH**

**AUTONOMOUS
WEAPON
DEPLOYMENT**

**NEW
INVENTIONS &
APPLICATIONS**

**DISPLACEMENT OF
EMPLOYEES**

TEACHING

WORKFORCE DEVELOPMENT

- Relevant academic degree programs
- Certifications
- Pathways
- Pipelines



RESEARCH

ECONOMIC DEVELOPMENT

- Applied collaborative R&D
- Responsive to external problems
- Technology Transfer
- Entrepreneurial Business Development

SERVICE

COMMUNITY DEVELOPMENT

Leveraging personal, professional, and social interests

How can we preserve an open society as we become more vulnerable in the digital realm?

How can the US pursue a national strategy that inspires allies and strengthens democracy around the world?

What talent programs must the US form to remain competitive in emerging technologies and reskill workers replaced by automation?

What do technology governance structures look like in a rapidly emerging technology era?

How can we ensure the resiliency of democratic ideals in a new technology era?



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