Artificial Intelligence

Linda Adams
Kelly Churchwright
Chad Harness (Chair)
Nathan Lee
Dave Menninger

Wyoming Resource: Tim Weber

WYOMING
CITY SCHOOLS

The Team

Kelly Churchwright
Wyoming Parent
State Education Administrator
Committee Member

Linda Adams
WMS Media Specialist
Committee Member

Dave Menninger
Wyoming Parent
Software Engineer
Committee Member

Nathan Lee
Wyoming Parent
Sales Data Analyst
Committee Member

Chad Harness
Wyoming Parent
Data Scientist/AI Consultant
Committee Chair

Tim Weber
Wyoming Parent
Superintendent
Committee Advisor

WYOMING
CITY SCHOOLS

Study Objectives

- **What are the best practices in utilizing artificial intelligence in the educational program for students?**

- **How can artificial intelligence be utilized by educators to support students in the learning process?**

- **How can students utilize artificial intelligence to support their learning in ethical ways?**

- **What are the negative aspects of artificial intelligence that should be avoided?**

- **Additional considerations:**

  - Personalized Learning

  - Educational Equity

  - Teacher Empowerment

Methodology and Research

- **Background of AI - Chad Harness**

- **AI Work Streams:**
  - Educational Applications and Best Practices
  - Risk Assessment, Policy, and Governance Review
  - Teacher, Staff, Student Engagement
  - Long-term Strategy and Communication

- **Strategies of Work Streams**
  - Attendance at AI Professional Conferences
  - Interviews with Other School Districts
  - Exploration of AI as a Tool Within the Study
  - Review of Professional Publications
  - Analysis of the Teach AI Guidance for Schools Toolkit (Collaboratively Created by Code.org, CoSN, Digital Promise, European EdTech Alliance, and PACE)

What is Artificial Intelligence (AI)?

Artificial intelligence is a machine's ability to perform the cognitive functions we usually associate with human minds.
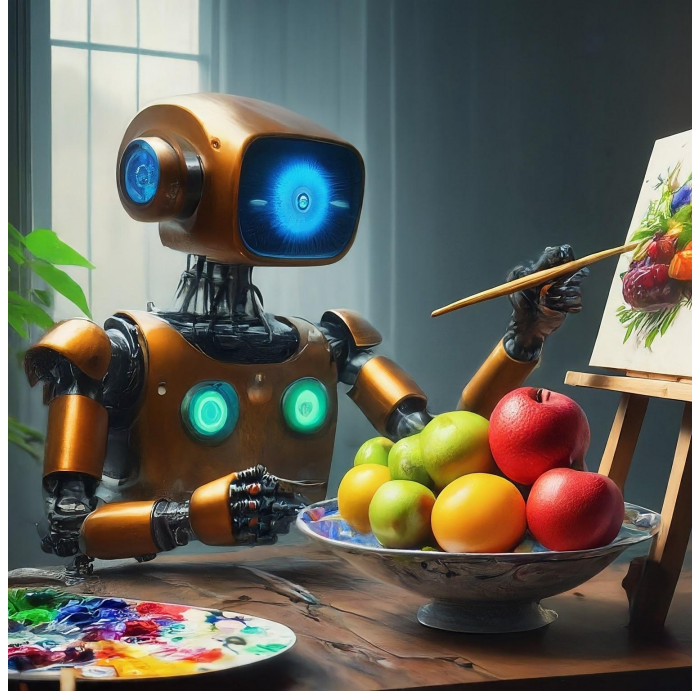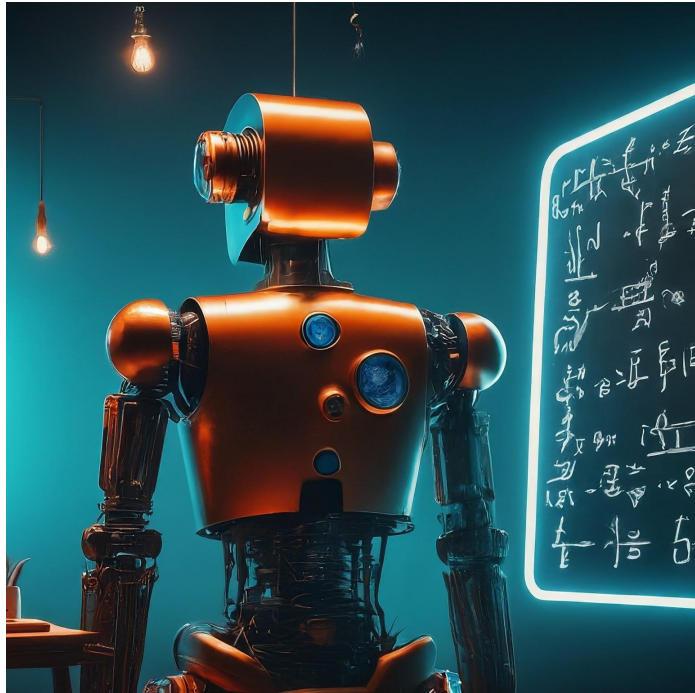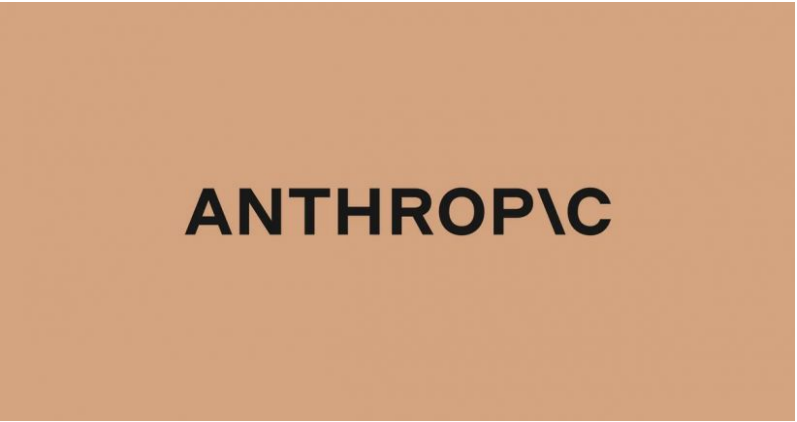
The Expanding Capabilities of AI
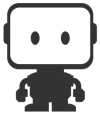
AI Landscape
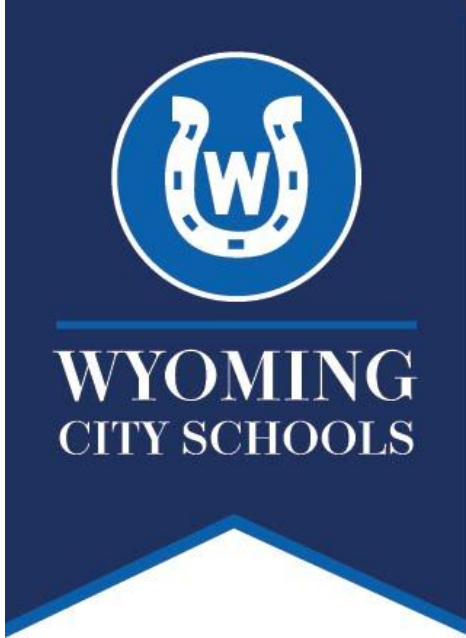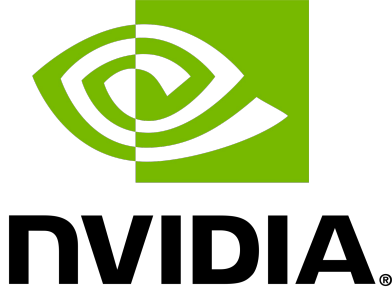
Findings (State of AI)

Time to reach 100m users (Months)

192   Mobile phone

84   Internet

54   Facebook

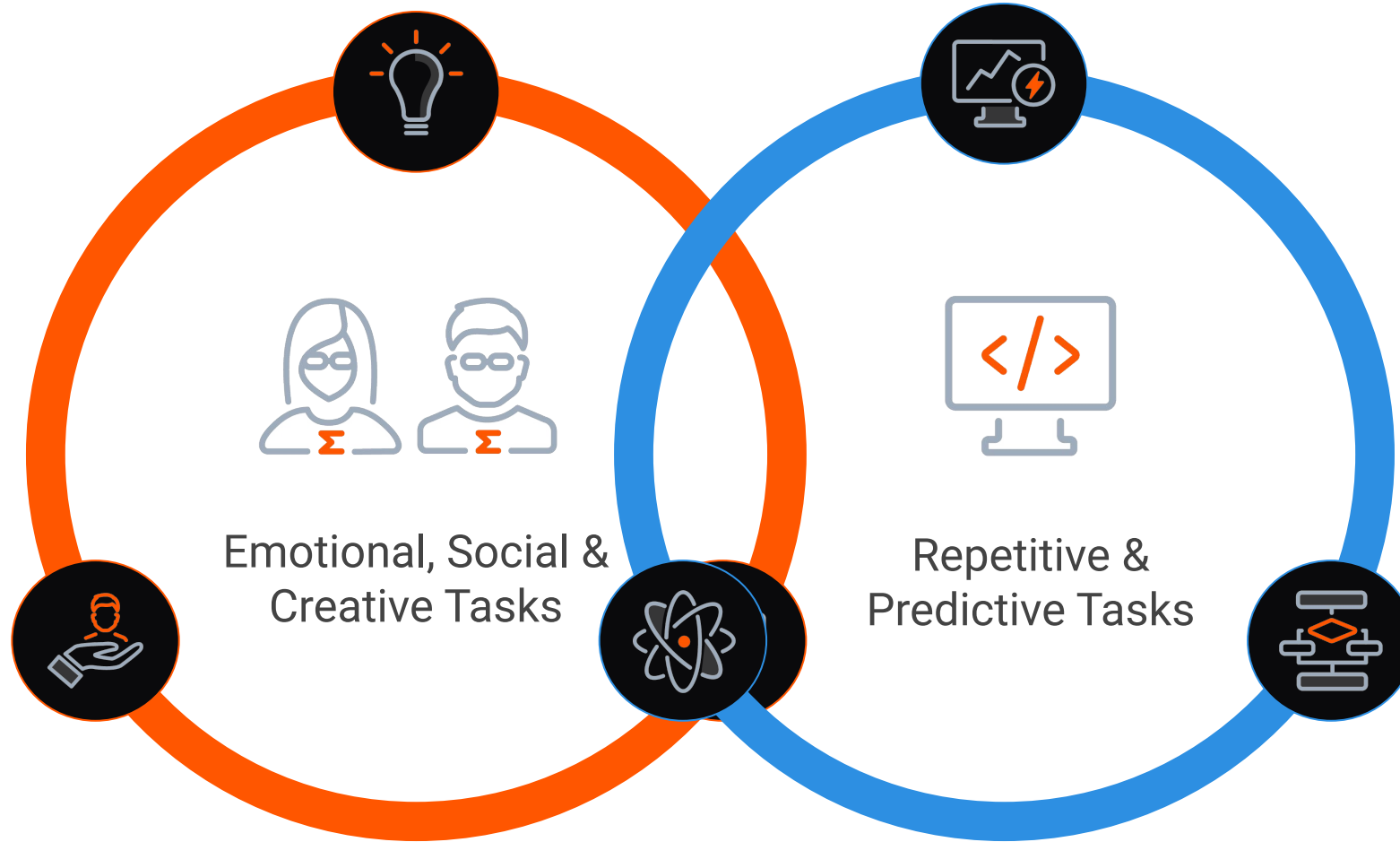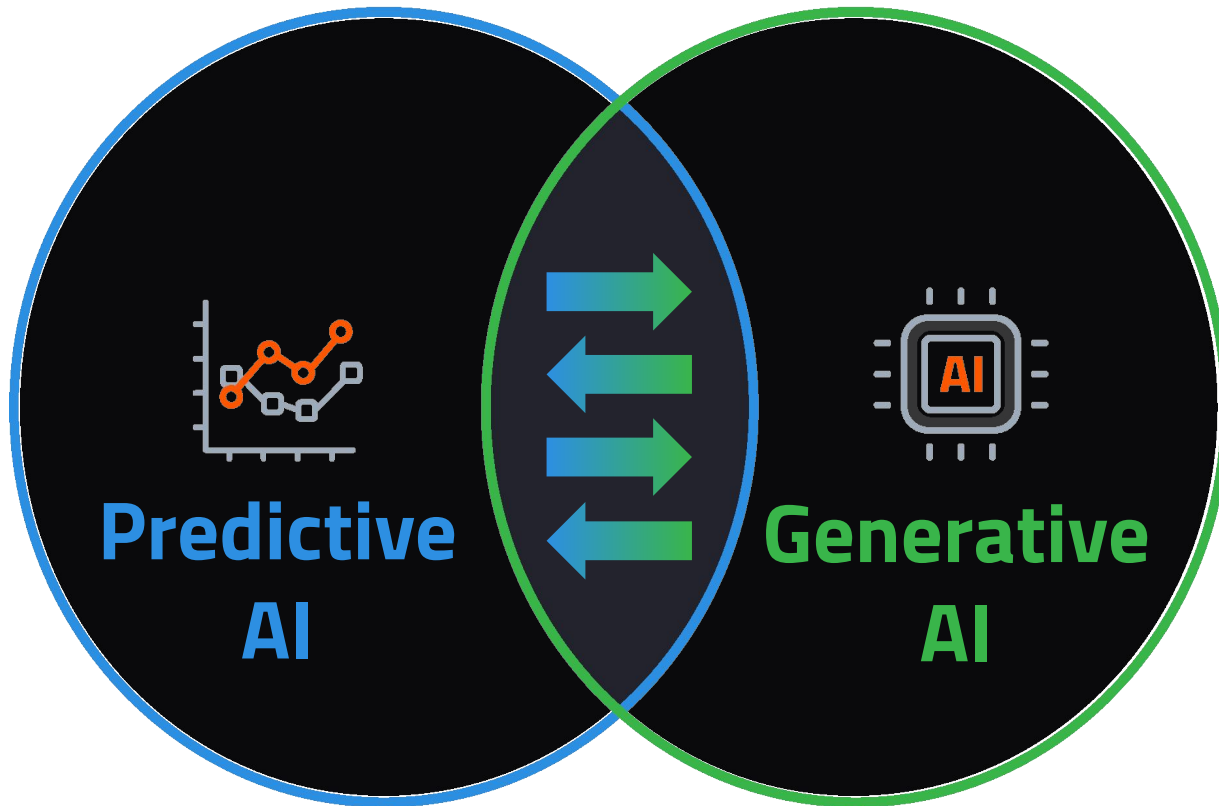2   ChatGPT

Findings (State of AI)
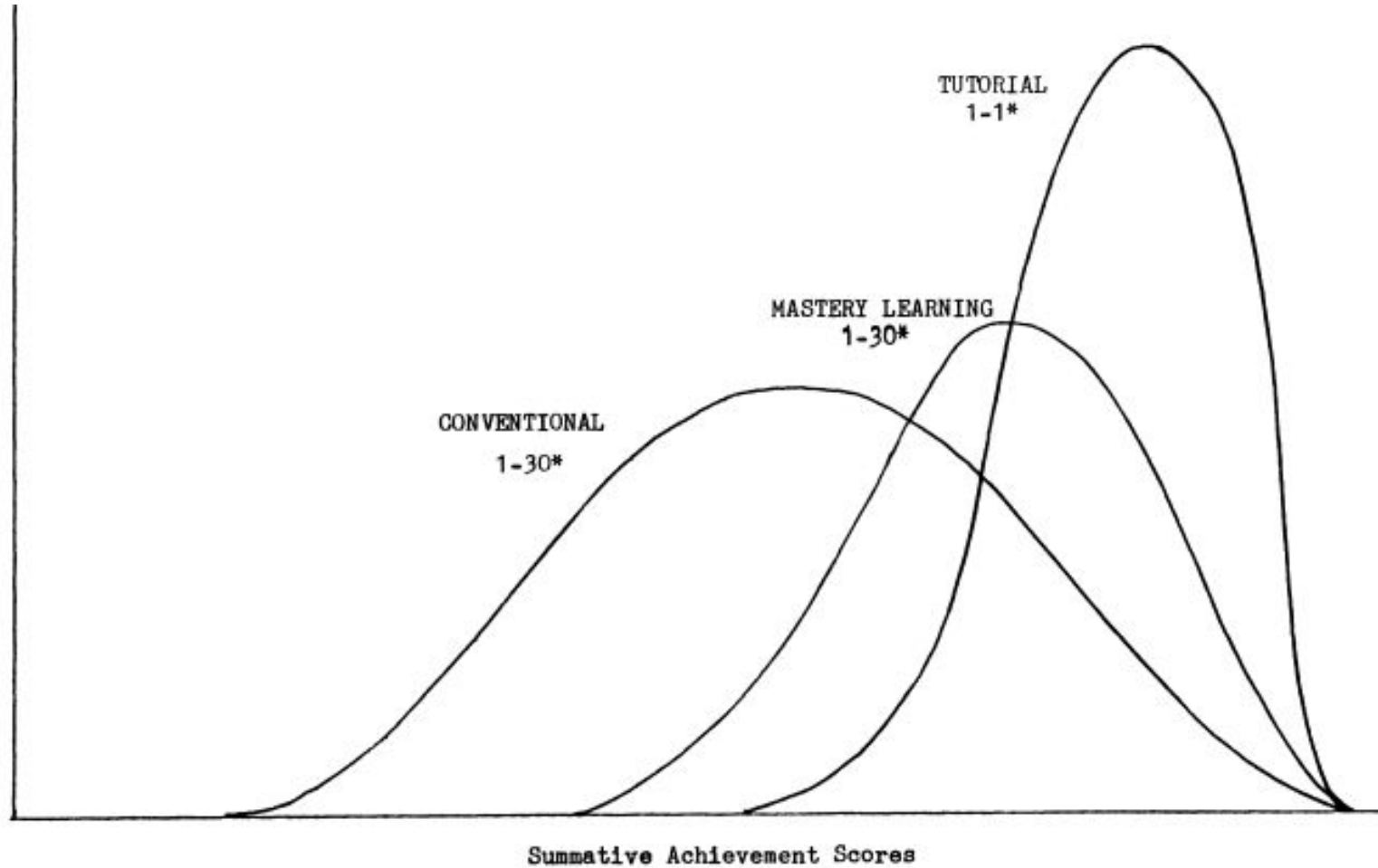
Emotional, Social & Creative Tasks

Repetitive & Predictive Tasks

Findings (State of AI)

Findings (The 2-Sigma Problem)

*Teacher-student ratio

Findings (Applications and Opportunities)

Findings (Applications and Opportunities)

Teaching

- Differentiated Lesson Planning
- Research guides
- Creative prompting for writing, art, and STEM
- Activity creation templates
- Customized responsive learning plans for each student

Administration

- School communications, with targeted messaging, including translation
- Classroom calendars
- Chatbots for routine inquiries
- Assisted Class Scheduling
- Inventory, building maintenance, Operations
- Learning Management Systems (LMS)
  a. Analyze and respond to student performance data
  b. Tailored response and intervention plans

WYOMING CITY SCHOOLS

Findings (Risks)

Fairness & Bias

Potential for *bias to be encoded* in generated content due to imperfect training data or decisions made by engineers developing models

Intellectual Property (IP)

Training data and model outputs may infringe on copyrighted, trademarked, patented or otherwise *legally protected materials*
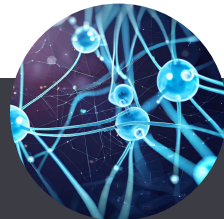
Privacy

Personally *identifiable information* may end up in model outputs.

Security

Bad actors can use GenAI to accelerate the speed and sophistication of *cyberattacks*. Potential to create/disseminate *malicious/harmful content*.

Reliability & Explainability

LLMs are based on neural networks with billions of parameters; challenging to *explain answers* and produce *consistent answers* to prompts.
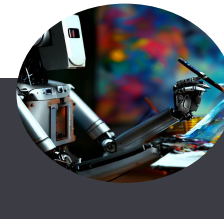
Social & Environmental

Potential for detrimental *social and environmental consequences* such as job displacement and increased carbon emissions

WYOMING CITY SCHOOLS
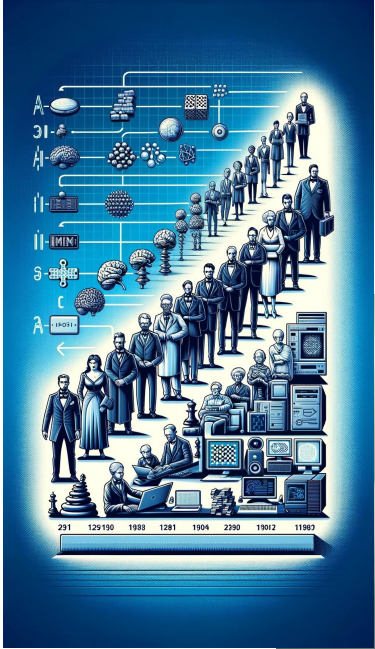
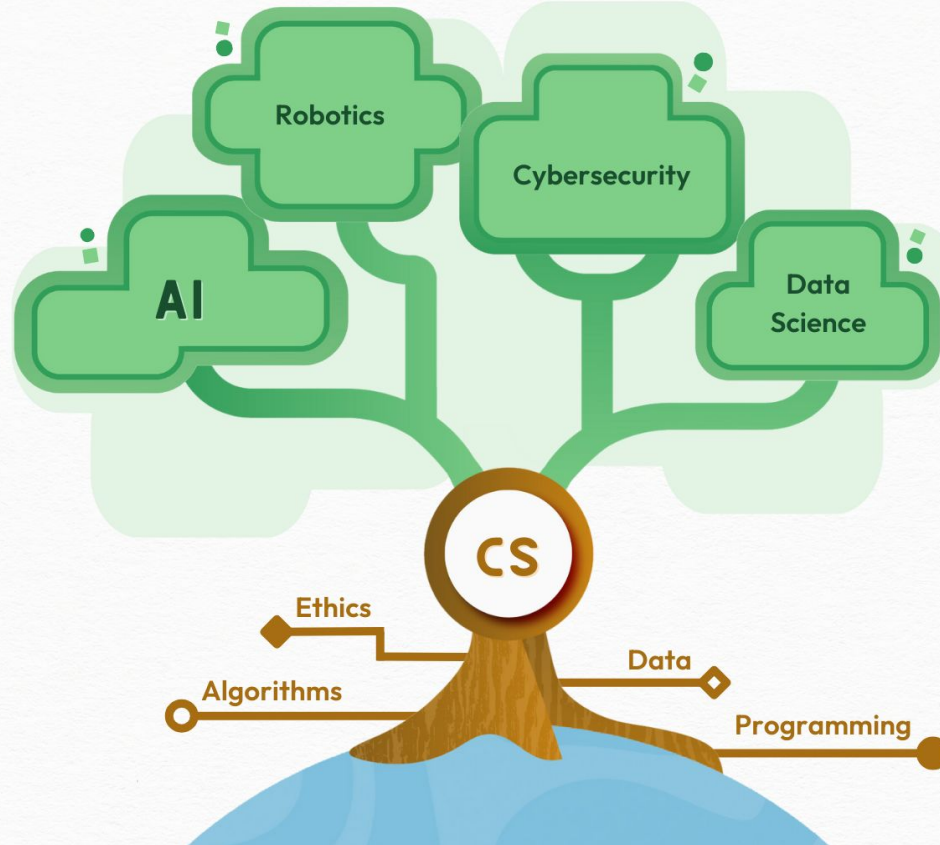# Balancing Risk and Reward

Findings (Policies and Governance)

Findings (AI Literacy)

In an age of **AI**, **CS** isn't just mandatory, it is **foundational**

Findings (Long-Term Strategy)

Findings (Long-Term Strategy)

Findings (Community and Stakeholder Engagement)

Recommendations and Conclusion

1) Integration and Policy Update: Begin integrating AI opportunities into current practices and establish protocols for continuous review and response to new AI technologies. This includes creating a stand-alone responsible use policy and updating existing policies to reflect the new technological landscape.

Recommendations and Conclusion

2) Promote AI Literacy: Integrate AI literacy as a fundamental component of professional development for teachers and the educational curriculum for students to prepare them for AI's ethical, societal, and practical aspects.

Recommendations and Conclusion

3) Utilize Existing Resources: Adopt the AI Guidance for Schools Toolkit developed by TeachAI as a blueprint for AI adoption and policy adaptation, ensuring the integration of best practices and comprehensive guidance tools.

Recommendations and Conclusion

4) Establish an AI Review Board: Form a standing committee to oversee AI developments, comprising teachers, administrators, parents, students, and other stakeholders to provide ongoing recommendations and ensure the representation of key stakeholder perspectives.