Teaching High School Students about Cybersecurity and Artificial Intelligence Ethics

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Project award #: 2114991. **Project URL**: https://salt.ischool.illinois.edu/AiEthics

Complex security/AI ethics topics:

- Blackbox AI
- Monetizing attention
- Tech addiction and cognition
- Tech companies' incentives

Selection relevant to kids and teens

1

2

Develop, test, distribute labs

- Hands-on activities
- Engaging discussions
- Knowledge & empathy

Challenges:

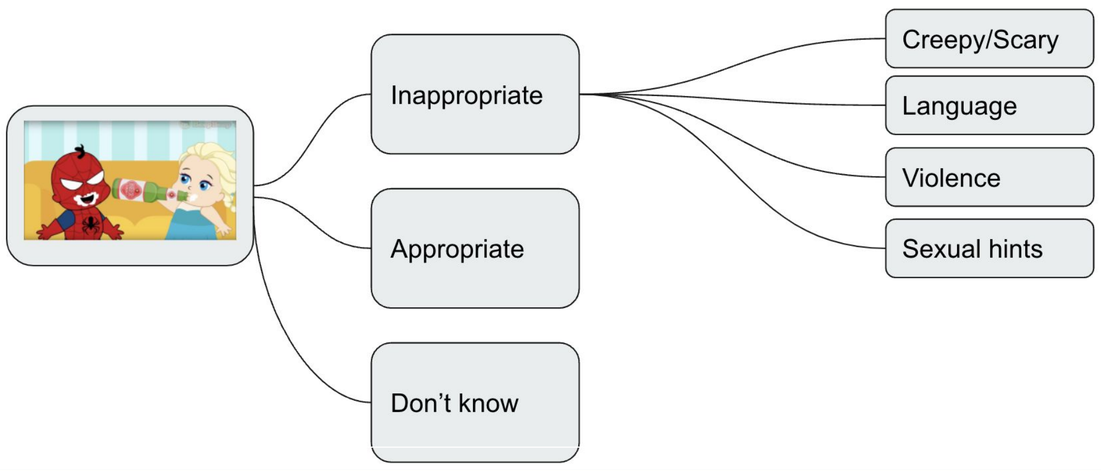
- How to prepare the next generation to handle ethical challenges?
- No K-12 requirements for CS and AI ethics;
- Empathy undervalued in tech education;
- Teachers lack guidance to approach CS/AI ethics in class.

Our plan:

1. Four labs increase high school students' *knowledge* of CS and AI ethics, and *empathy* for affected young children;
2. Identify neural/behavioral mechanism for the empathy-driven approach to enhance motivation and knowledge in young people.

Example Lab: YouTube rabbit hole

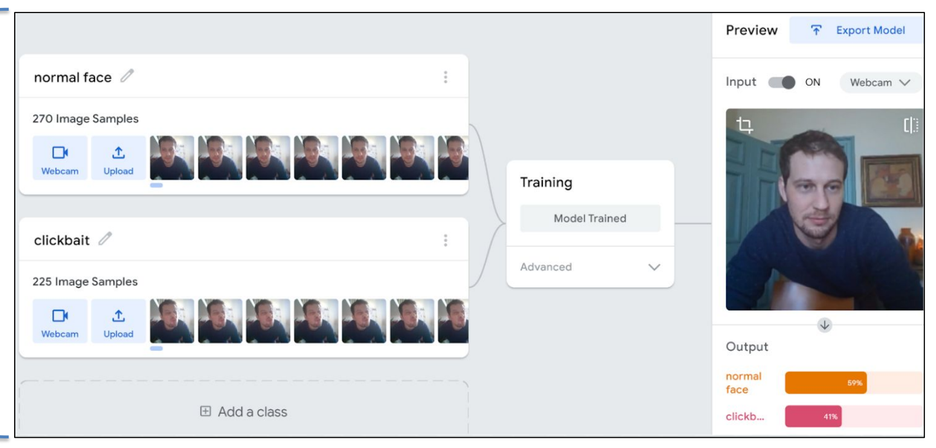
- Case study of 'Elsagate';
- Audit YouTube search results for children's search terms (3);
- Label search results appropriate or not.



Example Lab: Recommenders and clickbait

- How and why do companies compete for and monetize attention?
- Activity: Create ML model (4) to spot "normal" and "clickbait" facial expressions.

Teachable Machine model trained in 5 min.



Who will care:

- Educators
- Practitioners
- Policy-makers
- HS Students

Edu. & Outreach Impact

- PIs host high school students as researchers
- Collaborate with AI Institute at Colorado, IL and CO high schools

Broader Impact & Participation

- Events to reach children and families in IL and CO
- Labs freely available to teachers & schools

(1) Would you open the door for a robot delivering you pizza? (2) Chinese students wear a head band monitoring each child's brain activity and attention. (3) Papadamou, K. et al. (2020). Disturbed YouTube for kids (4) https://teachablemachine.withgoogle.com/