



Middle School Teachers' and Students' Experiences with Artificial Intelligence via Computational Cameras

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NSF Award Number: 1949384, 1949493 **Dates:** 2020 - 2024

Project type: Developing and Testing Innovations

Project URL: <https://www.imagesteam.org/>

Project Overview: ImageSTEAM is designed to help introduce AI and computer vision concepts to middle school teachers and students through the development of innovative learning activities in visual media.

Exposing teachers to computer vision, machine learning and computational cameras can help empower them to design standard-aligned lessons leveraging this technology for teaching science, math, and ELA.

Lessons Learned & Insights Gained

We have conducted four teacher professional development workshops where we have co-created lessons which incorporate computer vision/machine learning/comp. cameras into STEAM activities for students. Teachers need scaffolding and exposure to these topics to feel confident incorporating them into the classroom, and we have found that online videos with mini-lectures, dedicated workshop time and mentoring, and the ability to practice deploying lessons with students in the workshop can help achieve this self-efficacy.

Equity

Our program has been targeted for teachers and students primarily in Title I schools, and we have endeavored to make our program "coding free" and utilize minimal technology requirements (access to web browser) to ease access and adoption of the lessons. AI ethics and the sociocultural implication of computer vision technology has been a major theme of the lessons including how they impact underrepresented communities.

New Challenges & Next Steps

Challenges include scaling up the teacher professional development to a large cohort of teachers (more than 6-8 per workshop) as our current approach involves iterative development and feedback. We are looking into approaching this through standardizing our PD with online video modules and structured activities for teachers to complete. Further, challenges exist in the adoption of these lessons in the classroom given limited teaching time available, we are still exploring what incentives would be most effective for teachers utilizing these lessons in their curriculum.