Engaging Rural Students in Artificial Intelligence to Develop Pathways for Innovative Computing Careers

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Project Type: Developing and Testing Innovations

Project URL: http://go.ncsu.edu/aiplay

Project Overview: The AI PLAY project is investigating how to introduce AI concepts via digital game design activities to middle grades students and teachers through workshops, camps, and school-based programs in rural communities of North Carolina.

Digital game design activities offer a promising approach to providing engaging AI learning experiences; however, rural middle grades teachers and students will need to be appropriately supported in this endeavor.

Lessons Learned & Insights Gained

As part of our design-based research for the AI PLAY project, initial interviews with rural middle grades teachers and students indicate that the teaching and learning of AI concepts through digital game design activities is highly motivating. Teachers shared that they had limited knowledge of AI and supported extensive professional development to feel confident teaching AI to their students. Students' knowledge of AI ranged from superficial awareness to more advanced understanding.

Equity

We have partnered with Boys and Girls Clubs from rural, underserved areas of North Carolina. The students served by these clubs are from traditionally underrepresented groups in STEM (72.6% Black or African American, 4.9% Hispanic or Latinx, 7.0% Multi-Racial, 82.6% free or reduced lunch). Additionally, we have recruited middle grades teachers from rural schools and districts as our co-design partners.

New Challenges & Next Steps

Our initial interviews have provided key insights into the supports teachers and students will need as they teach and learn AI concepts. In the year ahead, we will expand our recruitment efforts, develop our AI-focused digital game design activities for students, conduct a professional development workshop for teachers, and design and implement a summer camp for students.