Requirements for a Computing-Literate Society

(Invited Keynote)

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ABSTRACT

We share a vision of a society that is able to express problems and ideas computationally. Andrea diSessa called that computational literacy, and he invented the Boxer Programming Environment to explore the media of computational literacy. Education has the job of making citizens literate. Education systems around the world are exploring the question of what should all citizens know about computing and how do we provide that knowledge. The questions being asked are about public policy, but also about what does it mean to be expressive with computation and what should computing users know. The answers to these questions have implications for the future of human-centric computing.

BIOGRAPHY

Mark Guzdial is a Professor in the School of Interactive Computing in the College of Computing at Georgia Institute of Technology. He studies how people come to understand computing and how to make that more effective. He leads the CSLearning4U project to create ebooks to help high school teachers learn CS. He is one of the leads on the NSF alliance "Expanding Computing Education Pathways" which helps US states improve and broaden their computing education. He invented Media Computation which uses media as a context for learning computing. With his wife and colleague, Barbara Ericson, he received the 2010 ACM Karl V. Karlstrom Outstanding Educator award. He is an ACM Distinguished Educator and a Fellow of the ACM.