
Is Computer Science a Science? A Half-Century Debate

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Abstract

From the 1950s to the present, computer scientists have debated whether their field is a science or not. Many have lamented that they are not recognized as scientists by other scientists, funding agencies, or the public. Why have computer scientists debated this question for so long, and what might their answers tell us about the nature of computing and the nature of science itself? This paper surveys how the meaning of computer science has changed over time and connects these evolving definitions with social and material contexts including changes in technology, the institutionalization of computer science within universities and professional societies, industry demand for computer experts, and funding opportunities. I then focus on debates over the scientific status of computing. Which elements of computer science are identified as “scientific,” and what do these claims reveal about how science itself is perceived and valued? And what is at stake in this debate? The paper will focus mainly on US but will incorporate comparative examples from Europe and the USSR.

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