Submission to CADGME 2018

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Big Data and Next Generation Visualization in the Classroom

Abstract

In our presentation we will discuss how the massive computational resources that are offered by GPU (graphics processing unit) rendering – even on portable devices like tablet computers or smartphones – impact the teaching of mathematics and data science in the classroom.

Parallel computing on large data sets encoded into images is not only useful for stunning visualizations, but also enables students and teachers to use the skills they learned for basic functional thinking (in the sense of Felix Klein) for real-world problems.

While the technology for GPU based computation is available today, concepts for the integration of this technology into actual teaching are still rare. The presentation shall close that gap a bit.

Keywords

data science
big data
Interactive Geometry
Cinderella
CindyJS
WebGL
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GPU
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visualization