50 Years After Shakey:
What Have We Learned in AI? Or not.

Oliver Brock

Abstract

"The Emperor's New Clothes" is a children's fairy tale by Hans Christian Andersen, first published in 1837 in Copenhagen. It tells the story of how collectively we can believe in something that no single person would sensibly believe in. The title of this tale has now become idiomatic for describing this phenomenon. --- And then there are many theories of "historic recurrence," stating that events in history tend to repeat. These date back to the Ancient Greek and have since been refined and reiterated by many prominent historians and philosophers---not to forget that they have been confirmed again and again by empirical historical evidence. --- Put these two together (Emperor's clothes and historical recurrence) and you get an explanation for, maybe even an indication of the inevitability of what we call "hypes" in science. We should not assume that AI is immune to that. In this talk, I would like to discuss my very personal historical perspective on what we have learned and what we have hyped over the last 50 years, since the Shakey project got us off to such a promising start in our endeavor to replicate "human intelligence" in technological artifacts. Clearly, there have been many advances... but are we careful enough not to repeat history and to fall again and again for the Emperor's new Clothes?

Bio

Oliver Brock is the Alexander von Humboldt Professor of Robotics in the School of Electrical Engineering and Computer Science at the Technische Universität Berlin in Germany. He received his Diploma in Computer Science in 1993 from the Technische Universität Berlin and his Master's and Ph.D. in Computer Science from Stanford University in 1994 and 2000, respectively. He also held post-doctoral positions at Rice University and Stanford University. Starting in 2002, he was an Assistant Professor and Associate Professor in the Department of Computer Science at the University of Massachusetts Amherst, before to moving back to the Technische Universität Berlin in 2009. The research of Brock's lab, the Robotics and Biology Laboratory, focuses on autonomous mobile manipulation, interactive perception, grasping, manipulation, soft hands, interactive learning, motion generation, and the application of algorithms and concepts from robotics to computational problems in structural molecular biology. He is also the president of the Robotics: Science and Systems foundation.