The Nature of AI-Based Systems
Track Introduction

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We are only at the very beginning of understanding the power and impact of Ecorithms as presented by Leslie Valiant in his book Probably Approximately Correct. They provide a new computational paradigm which is based on learning from observation/examples (rather than on conceptual design) and which Valiant therefore characterizes as theoryless. The power of ecorithms, which largely escape human control, becomes particular apparent with today's large language models. Valiant recognized the importance of ecorithms very early. In fact, he conjectured already a decade ago that they may even serve as a new paradigm for explaining the process of evolution and, in particular, its short timeframe.

The track *The Nature of AI-Based Systems* aims at shedding light on what makes AI-based system so special, to reveal their current impact and limitations, and to speculate where all this will lead to.

Main part of the track are the three keynotes:

- **Deep Neural Networks, Explanations, and Rationality** by Edward Lee,
- **Human or Machine: Reflections on Turing-Inspired Testing for the Everyday** by David Harel, and the more technical keynote
- **Graph Neural Networks: Everything is Connected** by Matthias Fey

which are complemented by podium discussion.