

## Principles of Embedded Computation

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Classical models of computation such as automata and Turing machines capture the discrete functional dependency among inputs and outputs, but abstract the real-time properties. These models consequently are not adequate for embedded systems such as automotive controllers and robots that consist of discrete software interacting with the continuous physical world. In this talk, we will review the models of timed and hybrid automata and the associated theory of embedded computation. We will discuss the project CHARON, issues related to correct implementation of embedded control models, and directions for future research.