学术报告会

时间：**2023年11月2日 10:00**

地点：**电信群楼2-410会议室**

Supervisory Control of Nondeterministic Discrete Event Systems with Nondeterministic Specifications

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摘要:

In this talk, supervisory control of nondeterministic discrete event systems is discussed. In the conventional supervisory control problem for the deterministic plant with the deterministic specification, equivalence of the marked language of the supervised plant and the specification language is required. When both the plant and the specification are nondeterministic, a notion of equivalence stronger than language equivalence is required. Bisimulation equivalence is stronger than language equivalence and it has been widely used for verification and control of dynamical systems. The bisimilarity control problem requires us to synthesize a possibly nondeterministic supervisor such that the supervised plant and the specification are bisimilar. A necessary and sufficient condition for the existence of a supervisor that solves the bisimilarity control problem is presented. In addition, how to synthesize such a supervisor is shown.

简介:

Shigemasa Takai received the B.E. and M.E. degrees in systems engineering from Kobe University, Kobe, Japan, in 1989 and 1991, respectively, and the Ph.D degree in electronic engineering from Osaka University, Suita, Japan, in 1995. From 1992 to 1998, he was a Research Associate with Osaka University. In 1998, he joined Wakayama University, Wakayama, Japan, as a Lecturer, and became an Associate Professor in 1999. From 2004 to 2009, he was an Associate Professor with the Kyoto Institute of Technology, Kyoto, Japan. Since 2009, he has been a Professor with Osaka University, Suita, Osaka, Japan. His research interests include supervisory control and fault diagnosis of discrete event systems.