

Session 2: Fault Tolerance and Security

Resilient high-performance and low-power platforms for safety-critical real-time Systems

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Abstract

Increasingly autonomous systems proliferate in domains such as automotive, avionics and space among others, where systems must meet specific safety requirements. While Deep Learning and high-performance hardware platforms are widely spread nowadays, they are at odds with the requirements of safety-critical systems and their development process. In particular, safety-critical systems need appropriate means for verification and validation, as well as safety measures to prevent faults from causing hazards. These requirements need to be leveraged with the (high) performance needs of autonomous navigation frameworks and constrained power envelopes. This talk will introduce some of the main challenges brought by autonomous systems with safety requirements, as well as some avenues to tackle them.