Machine Learning and Safety: Friends or Foes?

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Message from the Guest Editors

Dear Colleagues,

Machine Learning (ML) has become the enabling technology of several applications. There is enormous interest in adopting this technology to support critical tasks such as error detection, failure prediction, or intrusion detection, or even object detection and trajectory planning to support autonomous driving. However, components that operate in critical systems must be assessed so that the encompassing system complies with adequate safety requirements before they are deployed and used in their operational environment, in order to avoid generating catastrophic hazards to the health of citizens, the environment, or infrastructures. The absence of guarantees that a component will never fail more than is acceptable, according to domain-specific standards, is considered unacceptable by certification bodies who oversee the component's deployment into real critical systems. [...]

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