



Journal of Robotics

Special Issue on
Robotic and AI Safety and Security

CALL FOR PAPERS

There are numerous recent advancements in all aspects of development and deployment in everyday life of advanced domestic and industrial robots (soldier-robots, robots museum guides, human-like biped robots, office robots, androids, etc.), as well as artificial entities (such as intelligent software agents and avatars). However, safety and security issues related to robotics are barely addressed. This special issue aims at mitigating this problem.

Original, high-quality unpublished contributions are invited to one of the following topics devoted to robotic and AI safety engineering.

Potential topics include, but are not limited to:

- ▶ Robot behavior recognition and prediction
- ▶ Robot detection or robot self-recognition
- ▶ Secure robot-to-robot or R2H identification
- ▶ Robot, Avatar, or AI agent authentication
- ▶ Robot or AI versus human (CAPTCHA) testing
- ▶ Robot or AI confinement procedures
- ▶ Human security in robot populated areas
- ▶ Robot, Avatar, or AI agent recognition
- ▶ Reward function integrity
- ▶ Design verification in self-assembling systems
- ▶ Secure communication in robots and humans
- ▶ Program or program-output recognition
- ▶ Goal consistency in self-improving systems
- ▶ Virtual world security and safety
- ▶ Robot or AI antihacking measures
- ▶ Robot antitheft devices
- ▶ Robot or AI agent tempering detection
- ▶ Forensic analysis of robots/AI software
- ▶ Emergency shutdown mechanisms
- ▶ Robot or AI control and monitoring systems
- ▶ Robot or AI morals and ethics
- ▶ Nanorobot control and safety
- ▶ Self-destruction/deletion capabilities
- ▶ Drone safety and security
- ▶ Malware targeting robots and control systems
- ▶ Other robot security/safety topics
- ▶ Safe and secure drone control
- ▶ Drone flight regulations for security and safety
- ▶ Drone's software responsible for security
- ▶ Vulnerabilities in robot's control software
- ▶ Malware targeting robotic and control systems

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