CALL FOR PAPERS
SPECIAL SESSION ON
Artificial Intelligence for Navigation and Control of Mobile Robots
ICCAD'19, July 2-4, 2019, Grenoble-France

Session Co-Chairs:

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Session description:

For any mobile robot, the ability to navigate in its environment is important. Navigation is a field of research that focuses on the process of determination/estimation of a robot's position and velocity, as wellas its attitude. It includes strategies for land, marine, and aerial navigation. Navigation is often associated with feedbackcontrol, which is a branch of engineering dealing with the design of systems to control the movement of robot. Control refers to themanipulation of actuators, to execute guidance commands and maintain stability of the vehicle. Recent advancements are achieved in thisfield and concern the determination and (or) control of the states of the vehicle (position, direction, attitude, altitude, velocity, etc.). Avoiding dangerous situations such as collisions and unsafe conditions (temperature, radiation, exposure to weather, etc.) in a smart way, is very important to accomplish the mission of robot.

This special session deals with smart tracking control and navigation of mobile robots in hostile environments with the use of artificial intelligence. In fact, in itsnavigation, the robot may encounter some obstacles. These obstacles (depending on the robot environment) can damage the robot or blocks its navigation or change its trajectory. Recently the use of artificial intelligence in robotics is become one of the exciting tools to avoid them. The goal is to implement artificial intelligence controllers/estimators for optimal navigation allowing optimisation in terms of time and errors. It is also to impose trajectories that mobile robot must be able to follow.We invite original papers that address new developments in the research on artificial intelligence based indoor/outdoornavigation and control strategies. The main goal is to summarize the theoretical and experimental results within this field and presentdifferent applications.

The principal topics planned to be covered are as follows, but are not limited to:

- Artificial intelligence and data fusion in robotics
- Self-localization and path planning
- Speed, tracking and obstacle avoidance control
- Trajectory optimization in navigation
- Artificial intelligence and machine learning for robot state estimation
- Engineering system-based navigation and control.
- Location-based service navigation applications.
- Applications on aerial, marine and terrestrial robot navigation and control systems.
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SUBMISSION

Papers must be submitted electronically for peer review through Easychair by**: March 31, 2019**
https://easychair.org/my/conference.cgi?conf=iccad19.
All papers must be written in English and should describe original work. The length of the paper is limited to a maximum of 6 pages (in the standard IEEE conference double column format).

DEADLINES

March 31, 2019: deadline for paper submission;
April 25, 2019: notification of acceptance/reject;
May 10, 2019: deadline for final paper submission;
May 10, 2019: deadline for final paper and registration.