

## AI FOR LOW-ALTITUDE ECONOMY & UAV

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### ABSTRACT

The rapid expansion of the low-altitude economy and the widespread adoption of unmanned aerial vehicles (UAVs) present unprecedented opportunities and challenges across industries such as logistics, surveillance, agriculture, and urban air mobility. This mini-symposium explores the transformative role of artificial intelligence (AI) in addressing key computational and operational aspects of UAV systems and low-altitude operations. Topics of interest include but are not limited to: AI-driven aerodynamic modelling and optimization, machine learning-enhanced flight control and autonomy, computer vision for navigation and obstacle avoidance, and data-centric approaches for air traffic management and swarm coordination. Additionally, the session will cover AI applications in predictive maintenance, mission planning, and regulatory compliance, emphasizing the integration of computational mechanics with AI techniques to enhance safety, efficiency, and scalability. We welcome contributions that demonstrate novel methodologies, case studies, and interdisciplinary approaches leveraging AI to advance the future of low-altitude ecosystems and UAV technologies.

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