

2025 International Conference on Unmanned Systems and Technology (UST 2025)

**Guangzhou, China
19-21 September 2025**



**IEEE Catalog Number: CFP250P6-POD
ISBN: 979-8-3503-9232-6**

**Copyright © 2025 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP250P6-POD
ISBN (Print-On-Demand):	979-8-3503-9232-6
ISBN (Online):	979-8-3503-8076-7

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

Table of Contents

Research on Ship Draft Recognition based on Image Recognition	1
Qi Shao, Baijun Tian	
Research on Unmanned Transportation System for Coordinated Transportation of Underground Mining Truck and Shovel	6
Bing Cui, Huijun Zhao, Qixiang Zhang, Haibo Jiang, Zhendong Shi	
Dynamic Scheduling and Conflict ReDynamic Scheduling and Conflict Resolution for Urban Low-Altitude Logistics UAV Swarms Based on Digital Twin Technology	13
Ning Zhang	
A Shared-Ground-Target-Groups-Based Cooperative Localization Method for UAVs	20
Xuqing Li, Chenrui Ni, Jiayu She, Yanfang Liu	
Vehicle Trajectory Prediction Based on CNN-BiLSTM Model with Self-Attention Mechanism	24
Haibin Wang, Menglong Cao, Kemeng Tao, Qiaoyan Sun	
Research on Electronic Reconnaissance Route Planning Algorithm for UAV Based on Reconnaissance Utility Model	29
Runping Zhang, Kai Xia, Zheng Zhou, Wei Li	
Stable Optimization Technology for UAV Wireless Communication under Multi-source Link Enhancement	36
Hao Zhan, Jun Xie, Zhi Li, Xi Liu, Zhili Dong, Shengqiang Zeng	
Research on MPC-PID Fusion Control Method for 3D Trajectory Tracking of Underactuated UUV	40
Luyi Wang, Aigen Huang, Wenjun Li, Dongxu Liu	
Global Path Planning for Intelligent Vehicles Based on a Replanning Strategy	47
Jie Hu, Tihang Liao, Qiong Luo, Haowen Ma, Haonan Qin, Jiarong Zeng, Jie Yang	
Research on Multi-USV Cooperative Formation Cruising and Encirclement under Communication Constraints	55
Shiran Cheng, Xiaoqing Zhu	
Joint optimization approach of T2T communication channel allocation and power control	66
Zhiwu Wang, Yunbo Gao	
Novel Time-Domain SAR for High-Resolution Probabilistic Grid Mapping in UWB-Based SLAM	71
Yiming Zhang, Kun Chen, Jingli Yao, Ji Li	
Integrating Proximal Policy Optimization with Rolling Horizon Optimization for Intelligent Vehicle Trajectory Tracking Control	77
Xing He, Yu Wei	
Research on Batch Automated Plug-in Method of Screen Cabinet Wiring Harnesses Based on Industrial Robots	82
Menghua Huang, Zhigang Zhan	
Research on typical fault diagnosis of fixed-wing unmanned aerial vehicles based on CNN-LSTM-Attention model	87
Xiangdong Meng, Zongyu Zhang, Jingwei Li, Zhibo Jing, Wenya Zhou	

Gaussian-Guided RRT*: Enhancing Path Planning via Obstacle-Aware Probabilistic Sampling	93
Ruikai Zhou, Xuqiang Guo	
Author Index	98