

Xinqiang Chen

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Education Background & Work

- 2018.7- Now Shanghai Maritime University *Institute of logistics science & engineering* **Assistant Professor, Master Supervisor**
- 2020.05-Now: Fudan University *Department of Atmospheric and Oceanic Sciences* **Research Associate**
- 2013.9-2018.6 Shanghai Maritime University *Traffic Information Engineering* Ph.D.
- **2015.9-2016.9 University of Washington Traffic Engineering Visiting Ph.D.**
- 2010.9-2012.7 Shanghai Maritime University *Traffic Information Engineering* Master

Research Interests

- Video data - driven intelligent complex environment perception and understanding
- Visual navigation for IGV under unmanned port, smart shipping
- Transportation data analysis
- Traffic Safety
- Connected Vehicle

Selected Publications (* represents the corresponding author)

1. **Xinqiang Chen**, Jun Lin, Yongsheng Yang, Shengzheng Wang, Lijuan Luo, Ying Yan (2021). "Ship Detection from Coastal Surveillance Videos via an Ensemble Canny-Gaussian-Morphology Framework" *Journal of Navigation*, 1-15. **(SCI)**.
 2. **Xinqiang Chen**, Zhibin Li, Yongsheng Yang, Lei Qi, Ruimin Ke (2021). "High-Resolution Vehicle Trajectory Extraction and Denoising from Aerial Videos" *IEEE Transactions on Intelligent Transportation Systems*, 22(5): 3190-3202. **(SCI, ESI, Hot paper)**.
 3. **Xinqiang Chen**, Yongsheng Yang, Shengzheng Wang, Huafeng Wu, Jinjun Tang, Jiansen Zhao, Zhihuan Wang (2020). "Ship Type Recognition via a Coarse-to-Fine Cascaded Convolution Neural Network", *Journal of Navigation*, 73(4), 813-832. **(SCI, ESI)**.
 4. **Xinqiang Chen**, Shengzheng Wang, Chaojian Shi, Huafeng Wu, Jiansen Zhao, Junjie Fu (2019). "Robust ship tracking via multi-view learning and sparse representation", *Journal of Navigation*, 72(1), 176-192. **(SCI, ESI)**.
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5. **Xinqiang Chen**, Xueqian Xu, Yongsheng Yang, Huafeng Wu, Jinjun Tang, Jiansen Zhao (2020). "*Augmented Ship Tracking under Occlusion Conditions from Maritime Surveillance Videos*" IEEE ACCESS, 8(1), 42884-42897. (SCI, ESI).
 6. **Xinqiang Chen**, Huixing Chen, Yongsheng Yang, Huafeng Wu, Wenhui Zhang, Jiansen Zhao, Yong Xiong (2021). " *Traffic flow prediction by an ensemble framework with data denoising and deep learning model* " Physica A: Statistical Mechanics and Its Applications, 565(2021), 1-11. (SCI).
 7. **Xinqiang Chen**, Xueqian Xu, Yongsheng Yang, Yanguo Huang, Jing Chen, Ying Yan (2021). "*Visual Ship Tracking via a Hybrid Kernelized Correlation Filter and Anomaly Cleansing Framework*" Applied Ocean Research, 106(2021), 1-10. (SCI).
 8. **Xinqiang Chen**, Shubo Wu, Chaojian Shi, Yanguo Huang, Yongsheng Yang, Ruimin Ke, Jiansen Zhao (2020). " *Sensing Data Supported Traffic Flow Prediction via Denoising Schemes and ANN: A Comparison*" IEEE Sensors Journal, 20(23), 14317-14328. (SCI).
 9. **Xinqiang Chen**, Jun Ling, Yongsheng Yang, Hailing Zheng, Pengwen Xiong, Octavian Postolache (2020). " *Ship Trajectory Reconstruction from AIS Sensory Data via Data Quality Control and Prediction*" Mathematical Problems in Engineering, 1-9. (SCI).
 10. **Xinqiang Chen**, Jinquan Lu, Jiansen Zhao, Zhijian Qu, Yongsheng Yang, Jiangfeng Xian (2020). "*Traffic Flow Prediction at Varied Time Scales via Ensemble Empirical Mode Decomposition and Artificial Neural Network*" Sustainability, 12, 1-17. (SCI).
 11. **Xinqiang Chen**, Huixing Chen, Huafeng Wu, Yanguo Huang, Yongshegn Yang, Wenhui Zhang, Pengwen Xiong (2020). "*Robust Visual Ship Tracking with an Ensemble Framework via Multi-view Learning and Wavelet Filter*" Sensors, 20(3), 1-17 (SCI)
 12. **Xinqiang Chen**, Lei Qi, Yongsheng Yang, Qiang Luo, Octavian Postolache, Jinjun Tang, Huafeng Wu (2020). "*Video-based Detection Infrastructure Enhancement for Automated Ship Recognition and Behavior Analysis*", Journal of Advanced Transportation, 2020, 1-12 (SCI).
 13. **Xinqiang Chen**, Jun Ling, Lei Qi, Yongsheng Yang, Yamin Zou (2021). " *Multi-Targets Ship Tracking via a Multi-Dimension Features Fusion and Scale Estimation* " Computer Engineering and Applications, 57(13), 246-250.
 14. **Xinqiang Chen**, Zhibin Li, Yinhai Wang, Jinjun Tang, Wenbo Zhu, Chaojian Shi, Huafeng Wu (2018). "*Anomaly Detection and Cleaning of Highway Elevation Data from Google Earth Using Ensemble Empirical Mode Decomposition*", Journal of Transportation Engineering, Part A: Systems, 144(5), 1-14. (SCI).
 15. **Xinqiang Chen**, Zhibin Li, Yinhai Wang, Zhiyong Cui, Chaojian Shi, and Huafeng Wu (2017). "*Evaluating the impacts of grades on vehicular speeds on interstate highways*", PloS one, 12(9), 1-15. (SCI).
 16. Shubo Wu, **Xinqiang Chen***, Chaojian Shi, Junjie Fu, Ying Yan, Shengzheng Wang. "
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Ship Detention Prediction via Feature Selection Scheme and Support Vector Machine (SVM)" Maritime Policy & Management, 1-14, (SCI).

17. Junjie Fu, **Xinqiang Chen***, Shubo Wu, Chaojian Shi, Yongsheng Yang, Jiangfeng Xian (2020). "*Ship Detention Situation Prediction via Optimized Analytic Hierarchy Process and Naive Bayes Model*" Mathematical Problems in Engineering, 2020, 1-11. (SCI).
 18. Junjie Fu, **Xinqiang Chen***, Shubo Wu*, Chaojian Shi, Huafeng Wu, Jiansen Zhao, and Pengwen Xiong (2020). "*Mining Ship Deficiency Correlations from Historical Port State Control (PSC) Inspection Data*" PloS one, 15(2), 1-19. (SCI).
 19. Jiansen Zhao, Jinquan Lu, **Xinqiang Chen***, Zhongwei Yan, Ying Yan, Yang Sun. "*High-Fidelity data supported Ship Trajectory Prediction via an Ensemble Machine Learning Framework*" Physica A: Statistical Mechanics and its Applications, **586(2022)**, 1-10, (SCI).
 20. Jinjun Tang, Jin Hu, Wei Hao, **Xinqiang Chen*** and Yong Qi* (2020). "*Markov Chains based route travel time estimation considering link spatio-temporal correlation*" Physica A: Statistical Mechanics and its Applications, 545(2020), 1-13. (SCI).
 21. Qiang Luo, Jie Yuan, **Xinqiang Chen***, Shubo Wu, Zhijian Qu, and Jinjun Tang* (2019). "*Analyzing start-up time headway distribution characteristics at signalized intersections*", Physica A: Statistical Mechanics and its Applications, 535(2019), 1-10 (SCI).
 22. Zhijian Qu, Xubing Sun, **Xinqiang Chen***, and Shengao Yuan (2019). "*A novel RFID multi-tag anti-collision protocol for dynamic vehicle identification*" PloS one, 14(7): e0219344 (SCI).
 23. Qiang Luo, Xiaodong Zang, Jie Yuan*, **Xinqiang Chen***, Junheng Yang, Shubo Wu (2020). "*Research of Vehicle Rear-End Collision Model considering Multiple Factors* " Mathematical Problems in Engineering, vol. 2020 (SCI).
 24. Qiang Luo, Jie Yuan*, **Xinqiang Chen***, Junheng Yang, Wenhui Zhang and Jiansen Zhao (2019). "*Research on mixed user equilibrium model based on mobile internet traffic information service*" IEEE ACCESS, 7, 164775-164791 (SCI).
 25. Jinjun Tang, Fan Gao, Fang Liu, **Xinqiang Chen*** (2020). "*A Denoising Scheme Based Traffic Flow Prediction Model: Combination of Ensemble Empirical Mode Decomposition and Fuzzy C-means Neural Network*" IEEE ACCESS, vol. 8, 11546-11559 (SCI).
 26. Qiang Luo, **Xinqiang Chen**, Jie Yuan, Xiaodong Zang, Junheng Yang and Jing Chen (2020). "*Study and Simulation Analysis of Vehicle Rear-End Collision Model considering Driver Types*" Journal of Advanced Transportation, vol. 2020: 1-11. (SCI).
 27. Jinjunn Tang, **Xinqiang Chen**, Zheng Hu, Fang Zong, Chunyang Han, and Leixiao Li (2019). "*Traffic flow prediction based on combination of support vector machine and data denoising schemes*" Physica a-statistical mechanics and its applications, vol. 534,
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120642. (SCI).

28. Wen Liu, Yuanqiao Wen, **Xinqiang Chen**, and Yuxu Lu (2021). "An enhanced CNN-enabled learning method for promoting ship detection in maritime surveillance system," *Ocean Engineering*, vol. 235, p. 109435. (SCI).
 29. Jinjun Tang, Shen Zhang, **Xinqiang Chen**, Fang Liu, and Yajie Zou (2018). "*Taxi trips distribution modeling based on Entropy-Maximizing theory: A case study in Harbin city-China*" *Physica A: Statistical Mechanics and its Applications*, vol. 493: 430-443. (SCI).
 30. Jiansen Zhao, **Xinqiang Chen**, Shengzheng Wang, Wei Liu, Baoxian Ji, Yue Liu, Zhen Sun, and Tie Xu (2017). "*A Study of the Characteristics of a Deformable Antenna Based on Gas Discharge*" *IEEE Transactions on Antennas and Propagation*, vol. 66, no. 1: 59-70. (SCI).
 31. Huafeng Wu, Xiaojun Mei, **Xinqiang Chen**, Junjun Li, Jun Wang, and Prasant Mohapatra (2018). "*A novel cooperative localization algorithm using enhanced particle filter technique in maritime search and rescue wireless sensor network*" *ISA transactions*, vol. 78: 39-46. (SCI).
 32. Zhijian Qu, Hanxin Liu, Hailin Wang, **Xinqiang Chen**, Rui Chi, Zixiao Wang (2020). "*Cluster equilibrium scheduling method based on backpressure flow control in railway power supply systems*" *PLoS ONE*, vol. 15, no. 12: 1-23 (SCI).
 33. Salvatore Antonio Biancardo, Francesco Avella, Ernesto Di Lisa, **Xinqiang Chen**, Francesco Abbondati, Gianluca Dell'Acqua (2021). "*Multiobjective Railway Alignment Optimization Using Ballastless Track and Reduced Cross-Section in Tunnel*" *Sustainability*, 13: 1-19, (SCI).
 34. Ruyi Feng, Changyan Fan, Zhibin Li, **Xinqiang Chen** (2020). "*Mixed Road User Trajectory Extraction from Moving Aerial Videos based on Convolution Neural Network Detection*" *IEEE ACCESS*, 1-12 (SCI).
 35. Jinjun Tang, Shaowei Yu, Fang Liu, **Xinqiang Chen**, and Helai Huang (2019). "*A hierarchical prediction model for lane-changes based on combination of fuzzy C-means and adaptive neural network*" *Expert Systems with Applications*, vol. 130: 265-275. (SCI).
 36. Wenhui Zhang, Yongmin Su, Ruimin Ke, and **Xinqiang Chen** (2018). "*Evaluating the influential priority of the factors on insurance loss of public transit*" *PloS one*, vol. 13, no. 1: e0190103. (SCI).
 37. Jiansen Zhao, Shengzheng Wang, Huafeng Wu, Yue Liu, Yongmeng Chang, and **Xinqiang Chen** (2017). "*Flexible plasma linear antenna*" *Applied Physics Letters*, vol. 110, no. 9: 094108. (SCI).
 38. **Xinqiang Chen**, Yongsheng Yang, Huafeng Wu, Ruimin Ke. "*Detecting Ships from Coastal Surveillance Videos with a Canny-Gaussian Morphology Framework*" *The 99th Annual Meeting of Transportation Research Board*, 2020, (Poster Presentation).
 39. **Xinqiang Chen**, Zhibin Li, Yongsheng Yang, Huafeng Wu, Ruimin Ke, and Wenzhu
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Zhou. "Extracting and Denoising Vehicle Trajectory Automatically from Aerial Roadway Surveillance Videos" The 98th Annual Meeting of Transportation Research Board, No. 19-03147, 2019, **(Poster Presentation)**.

40. Zhibin Li, **Xinqiang Chen***, Lei Ling, Huafeng Wu, Wenzhu Zhou, and Cong Qi. "Accurate Traffic Parameter Extraction from Aerial Videos with Multi-Dimensional Camera Movements" The 98th Annual Meeting of Transportation Research Board, No. 19-02817, 2019, **(Poster Presentation)**.
41. **Xinqiang Chen**, Chaojian Shi, Shengzheng Wang, Huafeng Wu, Zhibin Li, and Jibiao Zhou. "Recognizing typical merchant ship categories based on a deep network" The 97th Annual Meeting of Transportation Research Board, No. 18-02544. 2018, **(Poster Presentation)**.
42. **Xinqiang Chen**, Chaojian Shi, Shengzheng Wang, Huafeng Wu, Jiansen Zhao, and Zhibin Li. "Automatic tracking of ships based on maritime surveillance videos" The 97th Annual Meeting of Transportation Research Board, No. 18-02553. 2018, **(Poster Presentation)**.

Paper in review (* represents the corresponding author)

1. **Xinqiang Chen**, Zhibin Li, Zichuang Wang, Yongsheng Yang, Ruimin Ke, Octavian Postolache. "Traffic parameter exploitation from unmanned aerial videos under multi-dimension camera movement interference" IEEE Transactions on Instrumentation & Measurement, **(SCI, under review)**.
 2. **Xinqiang Chen**, Jinbiao Zheng, Daolun Feng, Bing Wu, Jakub Montewka, Salvatore Antonio Biancardo. " Maritime traffic situation awareness analysis via high-fidelity ship imaging trajectory" Journal of Navigation, **(SCI, under review)**.
 3. **Xinqiang Chen**, Xueqian Xu, Yongsheng Yang, Huafeng Wu, Jinjun Tang, Pengwen Xiong, Jiansen Zhao. "Real-time ship tracking under challenge of scale variation and different visibility weather conditions" Journal of Advanced Transportation, **(SCI, under review)**.
 4. **Xinqiang Chen**, Huixing Chen, Yongsheng Yang, Huafeng Wu, Octavian Postolache, Jiansen Zhao, Ying Yan. "Ship Tracking from Maritime Surveillance Videos via an Ensemble Model " Multimedia tools and applications, **(SCI, under review)**.
 5. **Xinqiang Chen**, Jinbiao Zheng, Daolun Feng, Bing Wu, Jakub Montewka, Salvatore Antonio Biancardo. "Maritime traffic situation awareness analysis via high-fidelity ship imaging trajectory " Journal of Navigation, **(SCI, under review)**.
 6. **Xinqiang Chen**, Zichuang Wang, Qiaozhi Hua, Wenlong Shang, Qiang Luo, Keping Yu. " AI-Empowered Speed Extraction via Port-like Videos for Vehicular Trajectory Analysis " IEEE Transactions on Intelligent Transportation Systems, **(SCI, under review)**.
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Participated Projects

- Ship trajectory tracking from maritime images under hybrid navigation environment interference (**Sponsored by National Natural Science Foundation of China**), PI
- Highway Grade Characterization and Operating Efficiency Methods, Tools and Data Development (**Sponsored by Federal Highway Administration**).
- Drive net phase II: Online moving Washington platform for network-wide system operations, monitoring and analysis (**Sponsored by Washington State Department of Transportation**).
- Regional Map Based Analytical Platform for State-Wide Highway Safety Performance Assessment (**Sponsored by Regional Transportation Center for Federal Region 10**).
- The three-dimensional dynamic cooperative localization mechanism of ocean sensor network based on the ocean wave shielding effect model (**Sponsored by National Natural Science Foundation of China**)
- Dynamic topology and spatial-temporal stochastic coverage mechanism of maritime search and rescue wireless sensor networks (**Sponsored by National Natural Science Foundation of China**).
- Maritime target detection via GNSS-R and heterogeneous sensor information fusion method for maritime surveillance (**Sponsored by National Natural Science Foundation of China**).
- Energy-friendly route design based on big data and machine learning (**Sponsored by Shanghai Municipal Education Commission**).
- Study on the mechanism of dynamic topology and temporal and spatial random coverage of wireless sensor network in maritime search and rescue (**Sponsored by Shanghai Municipal Education Commission**).

Academic Service/Honors/Memberships

- **Leading Guest Editor** for Journal of Advanced Transportation (SCI, 2021)
- **Guest Editor** for Sensors (SCI, 2021)
- **Guest Editor** for Applied Sciences (SCI, 2021)
- **Guest Editor** for Sustainability (SCI, 2020)
- **Guest Editor** for Frontier Frontiers in Future Transportation (2021)
- **Area Editor** for the COTA CICTP (2020-21, Best Area Editor award)
- **Session Chair** for the 3rd International Conference of the Yangtze River Research and Innovation Belt (2020)
- **Outstanding Reviewer** of Maritime Policy & Management (SCI)
- **Outstanding Reviewer** of Journal of King Saud University-Computer and Information Sciences (ESCI)
- Member of TRB AW010(3) Subcommittee on Port Performance

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- Academic Committee Member of World Transport Convention 2018, 2019, 2020 (WTC 2018, 2019, 2020)
 - Member of Technical Program Committee of International Conference on Data Science and Business Analytics (ICDSBA 2018)
 - Member of Technical Program Committee of International Conference on Sensing and Instrumentation in IoT Era (ISSI 2018)
 - Member of Technical Program Committee of 2018 the third International Conference on Electrical, Control and Automation Engineering (ECAE2018)
 - Committee Member of 2018 International Symposium on Traffic Transportation and Civil Architecture (ISTTCA 2018)
 - **Editorial Board Member** of SCIREA Journal of Computer
 - **Editorial Board Member** of SCIREA Journal of Information Science and Systems Science
 - **Editorial Board Member** of SCIREA Journal of Traffic and Transportation
 - **Editorial Board Member** of Journal of Shipping and Ocean Engineering
 - **Editorial Board Member** of International Journal of Transportation Engineering and Technology
 - Member of International Association of Engineers
 - Second-class prizes of outstanding graduate students achievements of Shanghai Maritime University
 - Reviewer of IEEE Transactions on Intelligent Transportation Systems (SCI)
 - Reviewer of IEEE Transactions on Neural Networks and Learning Systems (SCI)
 - Reviewer of IEEE Transactions on Multimedia (SCI)
 - Reviewer of ACM Transactions on Intelligent Systems and Technology (SCI)
 - Reviewer of Ocean Engineering (SCI)
 - Reviewer of Maritime Policy & Management (SCI)
 - Reviewer of IET Intelligent Transportation Systems (SCI)
 - Reviewer of Transportation Research Record (SCI)
 - Reviewer of IEEE Sensors Journal (SCI)
 - Reviewer of Journal of Transportation Engineering, Part A: Systems (SCI)
 - Reviewer of Geo-spatial Information Science (SCI)
 - Reviewer of Journal of Navigation (SCI)
 - Reviewer of Computer Journal (SCI)
 - Reviewer of Circuit World (SCI)
 - Reviewer of Journal of Intelligent Transportation Systems Technology, Planning, and Operations (SCI)
 - Reviewer of Transport Policy (SCI)
 - Reviewer of Journal of Computational Design and Engineering (SCI)
 - Reviewer of International Journal of Remote Sensing (SCI)
 - Reviewer of Physica A: Statistical Mechanics and Its Applications (SCI)
 - Reviewer of Journal of Transport and Land Use (SCI)

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- Reviewer of Mathematics (SCI)
 - Reviewer of Alexandria Engineering Journal (SCI)
 - Reviewer of International Journal of Environmental Research and Public Health (SCI)
 - Reviewer of Journal of Advanced Transportation (SCI)
 - Reviewer of Scientific Programming (SCI)
 - Reviewer of Transportmetrica B: Transport Dynamics (SCI)
 - Reviewer of Advances in Civil Engineering (SCI)
 - Reviewer of IEEE ACCESS (SCI)
 - Reviewer of PLoS ONE (SCI)
 - Reviewer of Sustainability (SCI)
 - Reviewer of Sensors (SCI)
 - Reviewer of Processes (SCI)
 - Reviewer of Energies (SCI)
 - Reviewer of Entropy (SCI)
 - Reviewer of Mathematical Problems in Engineering (SCI)
 - Reviewer of International Journal of Information Technology and Web Engineering (EI)
 - Reviewer of Journal of King Saud University - Computer and Information Science (ESCI)
 - Reviewer of The Journal of Engineering
 - Reviewer of International Journal of Transportation Science and Technology Reviewer of Smart Cities
 - Reviewer of International Journal of Transportation Science and Technology
 - Reviewer of TRB (ABJ50 committee)
 - Reviewer of TRB (ADB20 committee)
 - Reviewer of TRB (ABJ70 committee)
 - Reviewer of the COTA International Conference of Transportation Professionals (CICTP 2017, CICTP 2018, CICTP 2019, CICTP 2020)
 - Reviewer of International Conference on Physics, Mathematics and Statistics (ICPMS 2018)
 - Reviewer of the World Transport Convention (WTC 2018, WTC 2019, WTC 2020, WTC 2021)
 - Reviewer of International Conference on Data Science and Business Analytics (ICDSBA 2018)
 - Reviewer of International Conference on Sensing and Instrumentation in IoT Era (ISSI 2018, ISSI 2019)
 - Reviewer of ASCE International Conference on Transportation & Development (ICTD 2020)
 - Reviewer of International Conference on Fuzzy Systems and Data Mining (FSDM 2020)
