陈谢沅澧

国防科技大学智能科学学院 • 校聘副教授
地址：湖南省长沙市开福区德雅路 109 号
xieyuanli.chen@nudt.edu.cn | www.xieyuanli-chen.com | Chen-Xieyuanli | GoogleScholar

研究领域

主要方向: 同步定位与建图, 全局定位, 三维重建, 环境语义理解, 机器人学习

应用平台: 智能移动平台, 救援机器人

教育背景

波恩大学 - 机器人学博士 - 学位论文: 基于激光雷达的智能无人移动平台语义感知算法研究 *2018.09 - 2022.08*
导师: Cyrill Stachniss 教授; 副导师: Chris McCool 教授, Philippe Giguère 教授 德国波恩

国防科技大学 - 控制科学与工程专业硕士 - 学位论文: 基于二进制视觉特征的单目定位与建图 *2015.09 - 2017.12*
导师: 张辉教授; 协助指导老师: 卢惠民教授, 肖军浩副教授 湖南长沙

湖南大学 - 电气工程及其自动化专业学士 - 学位论文: 四旋翼飞行器控制算法研究 *2011.09 - 2015.07*
导师: 谭建豪教授, 王耀南教授 湖南长沙

学术因子

谷歌学术影响因子 • **h-index: 16** • **i10-index: 20** • 总引用量: **1000+** 截止到 *2023.3*
所有数据均来自谷歌学术账号: DvrngV4AAAAJ

GitHub 开源项目 • 项目数量: **24** • 总标星量: **4000+** • 总转载量: **800+** 截止到 *2023.3*
所有数据均来自 GitHub 账号: Chen-Xieyuanli

学术经历

学术工作

编委	IEEE Robotics and Automation Letters, RAL（机器人国际顶级期刊）	*2022.09 - 至今*
编委	IEEE Intl. Conf. on Robotics & Automation, ICRA（机器人国际顶级会议）	*2022.09 - 至今*
编委	EEE Intl. Conf. on Intelligent Robots & Systems, IROS 机器人国际顶级会议）	*2023.01 - 至今*
研究助理	波恩大学图像测量与机器人实验室	*2019.09 - 2022.09*

学术会员

技术委员会成员	RoboCup 机器人世界杯救援机器人组	*2019.07 - 至今*
评审委员会成员	RoboCup 机器人世界杯研讨会 (RoboCup Symposium)	*2022.03 - 2022.07*
评审委员会成员	机器人科学与系统先锋论坛 (RSS Pioneer)	*2021.07 - 2022.07*
组织委员会成员	RoboCup 机器人世界杯救援机器人组	*2017.07 - 2019.07*

获奖情况

满分博士学位	拉丁文荣誉 Summa Cum Laude, 所有科目均满分, 最高分博士学位	*2022*
机器人科学与系统先锋	机器人科学与系统先锋论坛 (RSS Pioneer), 全球仅 **30** 名博士/博后入选	*2021*
最佳系统论文提名	机器人科学与系统 (RSS), 103 篇中稿, 中稿率 30%, 全球仅 **3** 篇被提名	*2020*
建图及探索项目冠军 **2** 次	RoboCup 机器人世界杯国际赛救援机器人组	*2021，2022*
小型机器人越障能力冠军	RoboCup 机器人世界杯国际赛救援机器人组	*2016*
救援机器人比赛冠军	IEEE 安保救援机器人国际会议 (SSRR)	*2017*

教学经历

副导师	满分优秀硕士论文: 董浩 - 基于深度学习的杆状物提取用于长时间跨度的激光雷达全局定位	*2022*
副导师	满分优秀本科论文: Verena Fitzke - 基于图像语义分割的彩色语义点云地图构建	*2020*
指导老师	硕士实习项目: 马君驿 - 基于 Transformer 旋转不变的激光雷达地点识别算法 **(发表于 RA-L)**	*2022*
指导老师	硕士实习项目: 孙家岱 - 基于时空信息融合的高效激光雷达动态物体分割算法 **(发表于 IROS)**	*2022*
指导老师	硕士实习项目: Andrzej Reinke - 用于无人移动平台简捷且高效的冗余里程计 **(发表于 ICRA)**	*2021*
指导老师	硕士实习项目: 董浩 - 基于杆状物提取的激光雷达全局定位 **(发表于 ECMR)**	*2021*
指导老师	本科实习项目: Mehul Arora - 在动态环境中基于地面分割的激光雷达静态地图构建 **(发表于 ECMR)**	*2021*
指导老师	硕士实践项目 - 视觉激光雷达融合里程计（波恩大学机器人学硕士必修课程）	*2020*
教学助理	移动机器人课程（波恩大学机器人学硕士必修课程）	*2020*
指导老师	硕士实践项目 - 语义地点分类（波恩大学机器人学硕士必修课程）	*2019*
教学助理	传感器和状态估计课程（波恩大学机器人学硕士必修课程）	*2019*

项目经历

Harmony	欧洲科学研究委员会 - 医疗服务机器人项目	*2020 - 2022*
PhenoRob	德国科学研究基金会 - 农业机器人和表型分析项目 - 德国卓越杰出项目 (Exzellenzcluster)	*2018 - 2022*
IPB-Car	波恩大学 - 自动驾驶感知任务项目	*2018 - 2022*

发表论文

发表论文总数 • SCI 检索期刊论文 20 篇 • EI 检索会议论文 20+ 篇
其中以一作及通讯作者发表论文 20 篇 (* 代表通讯作者)

国际期刊论文

[1] **X. Chen**, T. Läbe, A. Milioto, T. Röhling, J. Behley, and C. Stachniss. OverlapNet: A Siamese Network for Computing LiDAR Scan Similarity with Applications to Loop Closing and Localization. *Autonomous Robots*, 46:61–81, 2021

[2] **X. Chen**, S. Li, B. Mersch, L. Wiesmann, J. Gall, J. Behley, and C. Stachniss. Moving Object Segmentation in 3D LiDAR Data: A Learning-based Approach Exploiting Sequential Data. *IEEE Robotics and Automation Letters (RA-L)*, 6:6529–6536, 2021

[3] **X. Chen**, B. Mersch, L. Nunes, R. Marcuzzi, I. Vizzo, J. Behley, and C. Stachniss. Automatic Labeling to Generate Training Data for Online LiDAR-Based Moving Object Segmentation. *IEEE Robotics and Automation Letters (RA-L)*, 7(3):6107–6114, 2022

[4] L. Nunes, **X. Chen***, R. Marcuzzi, A. Osep, L. Leal-Taixé, C. Stachniss, and J. Behley. Unsupervised Class-Agnostic Instance Segmentation in LiDAR Data for Autonomous Vehicles. *IEEE Robotics and Automation Letters (RA-L)*, 2022

[5] J. Ma, J. Zhang, J. Xu, R. Ai, W. Gu, and **X. Chen***. OverlapTransformer: An Efficient and Rotation-Invariant Transformer Network for LiDAR-Based Place Recognition. *IEEE Robotics and Automation Letters (RA-L)*, 2022

[6] H. Dong, **X. Chen***, and C. Stachniss. Online Pole Segmentation on Range Images for Long-term LiDAR Localization in Urban Environments. *Journal on Robotics and Autonomous Systems (RAS)*, 2022

[7] M. Arora, L. Wiesmann, **X. Chen***, and C. Stachniss. Static Map Generation from 3D LiDAR Point Clouds Exploiting Ground Segmentation. *Journal on Robotics and Autonomous Systems (RAS)*, 2022

[8] J. Ma, **X. Chen**, J. Xu, and G. Xiong. SeqOT: Spatial-Temporal Transformer Networks for Place Recognition Using Sequential LiDAR Data. *IEEE Trans. on Industrial Electronics (TIE)*, 2023

[9] Y. Cui, **X. Chen**, Y. Zhang, J. Dong, Q. Wu, and F. Zhu. Bow3d: Bag of words for real-time loop closing in 3d lidar slam. *IEEE Robotics and Automation Letters (RA-L)*, 2022

[10] S. Li, **X. Chen**, Y. Liu, D. Dai, C. Stachniss, and J. Gall. Multi-scale Interaction for Real-time LiDAR Data Segmentation on an Embedded Platform. *IEEE Robotics and Automation Letters (RA-L)*, 7(2):738–745, 2022

[11] B. Mersch, **X. Chen**, I. Vizzo, L. Nunes, J. Behley, and C. Stachniss. Receding Moving Object Segmentation in 3D LiDAR Data Using Sparse 4D Convolutions. *IEEE Robotics and Automation Letters (RA-L)*, 2022

[12] T. Guadagnino, **X. Chen**, M. Sodano, J. Behley, G. Grisetti, and C. Stachniss. Fast Sparse LiDAR Odometry Using Self-Supervised Feature Selection on Intensity Images. *IEEE Robotics and Automation Letters (RA-L)*, 2022

[13] C. Shi, **X. Chen**, K. Huang, J. Xiao, H. Lu, and C. Stachniss. Keypoint Matching for Point Cloud Registration using Multiplex Dynamic Graph Attention Networks. *IEEE Robotics and Automation Letters (RA-L)*, 6:8221–8228, 2021

[14] N. Zimmerman, T. Guadagnino, **X. Chen**, J. Behley, and C. Stachniss. Long Term Localization using Semantic Cues in Floor Plan Maps. *IEEE Robotics and Automation Letters (RA-L)*, 2022

[15] L. Nunes, R. Marcuzzi, **X. Chen**, J. Behley, and C. Stachniss. SegContrast: 3D Point Cloud Feature Representation Learning through Self-supervised Segment Discrimination. *IEEE Robotics and Automation Letters (RA-L)*, 7(2):2116–2123, 2022

[16] L. Wiesmann, A. Milioto, **X. Chen**, C. Stachniss, and J. Behley. Deep Compression for Dense Point Cloud Maps. *IEEE Robotics and Automation Letters (RA-L)*, 6:2060–2067, 2021

[17] Y. Bai, Q. Zou, **X. Chen**, L. Li, Z. Ding, and L. Chen. Extreme low-resolution action recognition with confident spatial-temporal attention transfer. *Intl. Journal of Computer Vision (IJCV)*

部分国际会议论文

[1] **X. Chen**, A. Milioto, E. Palazzolo, P. Giguère, J. Behley, and C. Stachniss. SuMa++: Efficient LiDAR-based Semantic SLAM. In *Proc. of the IEEE/RSJ Intl. Conf. on Intelligent Robots and Systems (IROS)*, 2019

[2] **X. Chen**, T. Läbe, A. Milioto, T. Röhling, O. Vysotska, A. Haag, J. Behley, and C. Stachniss. OverlapNet: Loop Closing for LiDAR-based SLAM. In *Proc. of Robotics: Science and Systems (RSS)*, 2020

[3] **X. Chen**, T. Läbe, L. Nardi, J. Behley, and C. Stachniss. Learning an Overlap-based Observation Model for 3D LiDAR Localization. In *Proc. of the IEEE/RSJ Intl. Conf. on Intelligent Robots and Systems (IROS)*, 2020

[4] **X. Chen**, I. Vizzo, T. Läbe, J. Behley, and C. Stachniss. Range Image-based LiDAR Localization for Autonomous Vehicles. In *Proc. of the IEEE Intl. Conf. on Robotics & Automation (ICRA)*, 2021

[5] **X. Chen**, H. Lu, J. Xiao, and H. Zhang. Distributed monocular multi-robot slam. In *Proc. of the IEEE Intl. Conf. on CYBER technology in automation, control, and intelligent systems (CYBER)*, 2018

[6] **X. Chen**, H. Zhang, H. Lu, J. Xiao, Q. Qiu, and Y. Li. Robust SLAM system based on monocular vision and LiDAR for robotic urban search and rescue. In *Proc. of the IEEE Intl. Sym. on Safety, Security, and Rescue Robotics (SSRR)*, pages 41–47, 2017

[7] **X. Chen**, H. Lu, J. Xiao, H. Zhang, and P. Wang. Robust relocalization based on active loop closure for real-time monocular slam. In *Proc. of the Intl. Conf. on Computer Vision Systems*, 2017

[8] J. Sun, Y. Wang, M. Feng, D. Wang, J. Zhao, C. Stachniss, and **X. Chen***. ICK-Track: A Category-Level 6-DoF Pose Tracker Using Inter-Frame Consistent Keypoints for Aerial Manipulation. In *Proc. of the IEEE/RSJ Intl. Conf. on Intelligent Robots and Systems (IROS)*, 2022

[9] J. Sun, Y. Dai, X. Zhang, J. Xu, R. Ai, W. Gu, and **X. Chen***. Efficient Spatial-Temporal Information Fusion for LiDAR-Based 3D Moving Object Segmentation. In *Proc. of the IEEE/RSJ Intl. Conf. on Intelligent Robots and Systems (IROS)*, 2022

[10] H. Dong, **X. Chen***, M. Dusmanu, V. Larsson, M. Pollefeys, and C. Stachniss. Learning-based dimensionality reduction for local feature descriptors. In *Proc. of the IEEE Intl. Conf. on Robotics & Automation (ICRA)*, 2023

[11] H. Dong, **X. Chen***, and C. Stachniss. Online Range Image-based Pole Extractor for Long-term LiDAR Localization in Urban Environments. In *Proc. of the Europ. Conf. on Mobile Robotics (ECMR)*, 2021

[12] I. Vizzo, **X. Chen**, N. Chebrolu, J. Behley, and C. Stachniss. Poisson Surface Reconstruction for LiDAR Odometry and Mapping. In *Proc. of the IEEE Intl. Conf. on Robotics & Automation (ICRA)*, 2021

[13] B. Mersch, **X. Chen**, J. Behley, and C. Stachniss. Self-supervised Point Cloud Prediction Using 3D Spatio-temporal Convolutional Networks. In *Proc. of the Conf. on Robot Learning (CoRL)*, 2021

[14] A. Reinke, **X. Chen**, and C. Stachniss. Simple But Effective Redundant Odometry for Autonomous Vehicles. In *Proc. of the IEEE Intl. Conf. on Robotics & Automation (ICRA)*, 2021

[15] M. Zhou, **X. Chen**, N. Samano, C. Stachniss, and A. Calway. Efficient localisation using images and openstreetmaps. In *Proc. of the IEEE/RSJ Intl. Conf. on Intelligent Robots and Systems (IROS)*, 2021

[16] M. Arora, L. Wiesmann, **X. Chen**, and C. Stachniss. Mapping the Static Parts of Dynamic Scenes from 3D LiDAR Point Clouds Exploiting Ground Segmentation. In *Proc. of the Europ. Conf. on Mobile Robotics (ECMR)*, 2021

[17] S. Yang, L. Zheng, **X. Chen**, L. Zabawa, M. Zhang, and M. Wang. Transfer Learning from Synthetic In-vitro Soybean Pods Dataset for In-situ Segmentation of On-branch Soybean Pod. In *Proc. of the IEEE/CVF Conf. on Computer Vision and Pattern Recognition Workshops (CVPRW)*, 2022

[18] L. Nunes, L. Wiesmann, R. Marcuzzi, **X. Chen**, J. Behley, and C. Stachniss. Transfer Learning from Synthetic In-vitro Soybean Pods Dataset for In-situ Segmentation of On-branch Soybean Pod. In *Proc. of the IEEE/CVF Conf. on Computer Vision and Pattern Recognition (CVPR)*, 2022