Zimin Xia

Nationality: Chinese
Date of birth: 1994.02.21
Email: z.xia@tudelft.nl
Address: Delft, the Netherlands

Google Scholar

EDUCATION

Delft University of Technology, the Netherlands Oct. 2019 - (EXP) Jan. 2024
Ph.D. student, topic: Efficient Deep Learning for Localization and Mapping
Supervisors: Dr. Julian F. P. Kooij , Prof. Dariu M. Gavrila

University of Stuttgart, Germany Oct. 2016 - Jul. 2019
Master of Science, Geomatics Engineering (Grade: 1.3)

Wuhan University, China Sep. 2012 - Jun. 2016
Bachelor of Science, Geodesy and Geomatics Engineering

PROJECTS

Ph.D. Project: Efficient Deep Learning for Localization and Mapping
Intelligent Vehicles Group, Cognitive Robotics Department, TU Delft
TomTom, Amsterdam, the Netherlands Oct. 2019 - present

- Visual localization for autonomous driving
- Ground-to-aerial image matching
- Map representation learning

Master Thesis: Stereo Reconstruction of Human Faces with Deep Learning
Corporate Research & Technology, Carl Zeiss AG, Germany Oct. 2018 - Jun. 2019

- Deep learning-based disparity estimation

AI Music Project
Ping An Technology, Shenzhen, China Mar. 2018 - Jul. 2018

- RNN/LSTM for music generation

Integrated Fieldwork
University of Stuttgart Apr. 2017 - Aug. 2017

- Multi-sensor landfill site monitoring:
  UAV photogrammetry, Leveling, GNSS positioning, Tachymeter surveying

SELECTED PUBLICATIONS

Convolutional Cross-View Pose Estimation
Zimin Xia, Olaf Booij, Julian F. P. Kooij
(Under revision at IEEE Transactions on Pattern Analysis and Machine Intelligence)

SliceMatch: Geometry-guided Aggregation for Cross-View Pose Estimation
Ted Lentsch*, **Zimin Xia***, Holger Caesar, Julian F. P. Kooij
*: Equal contribution
Conference on Computer Vision and Pattern Recognition (CVPR), 2023

Visual Cross-View Metric Localization with Dense Uncertainty Estimates
Zimin Xia, Olaf Booij, Marco Manfredi, Julian FP Kooij
European Conference on Computer Vision (ECCV), 2022

Cross-View Matching for Vehicle Localization by Learning Geographically Local Representations
Zimin Xia, Olaf Booij, Marco Manfredi, Julian FP Kooij
IEEE Robotics and Automation Letters (IEEE RA-L), 2021

Geographically Local Representation Learning with a Spatial Prior for Visual Localization

Zimin Xia, Olaf Booij, Marco Manfredi, Julian FP Kooij
European Conference on Computer Vision, 2020, Workshop on Map-based Localization for Autonomous Driving

TEACHING ASSISTANT

Machine Learning for Robotics	Sep. 2023 - Nov. 2023
Machine Learning for Robotics	Sep. 2022 - Nov. 2022
Machine Learning for Robotics	Sep. 2021 - Nov. 2021
Machine Learning for Robotics	Sep. 2020 - Nov. 2020
3D Robot Vision	Feb. 2020 - Apr. 2020
Intelligent Vehicles	Nov. 2019 - Jan. 2020

MSC THESIS SUPERVISION

Cross-View Camera Pose Estimation By Matching Local Features in 3D

Oct. 2022 - Aug. 2023

Improving Cross-View Matching with Self-Supervised Learning

Jan. 2022 - Jan. 2023

SliceNet: Street-to-Satellite Image Metric Localization using Local Feature Matching

Nov. 2021 - Oct. 2022

RESEARCH INTERESTS

Visual Localization, Ground-to-Aerial Image Matching, 3D Computer Vision, Representation Learning, Self-Supervised Learning

LANGUAGE

English: Professional proficiency
German: Elementary proficiency
Chinese: Native

HOBBIES

Swimming, Playing basketball, Reading