Chang Xu (徐畅)

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EDUCATION

École Polytechnique Fédérale de Lausanne (EPFL) *Lausanne, Switzerland* *Jul. 2023 – Oct. 2023*
Exchange Master Student

- Supervisor: Prof. Devis Tuia
- Research Interest: Vision Language Models for Remote Sensing, Geo-localisation

Wuhan University *Wuhan, China* *Sep. 2021 – Present.*
Master in Communication and Information System

- Supervisor: Prof. Wen Yang
- Research Interest: Remote Sensing, Object Detection, Event-based Vision, Multi-modal Learning

University of Oxford *Oxford, Britain* *Jan. 2020 – Feb. 2020*
Visiting Student

- Courses on Academic Writing and Academic Presentation

Wuhan University *Wuhan, China* *Sep. 2017 – Jun. 2021*
***B.S. of Electronic Information Engineering*(*GPA: 3.74/4.0, Top 10 %*)**

SELECTED RESEARCH EXPERIENCE

Geo-localisation and Vision Language Models for Remote Sensing (*Mentor: Prof. Devis Tuia*) *Jul. 2023 – Present.*
EPFL, Switzerland

- Use language as a bridge to transfer knowledge between aerial images and natural images.

Density Measurement and Density-aware Detection (*Mentor: Prof. Mihai Datcu*) *Jun. 2022 – Sep. 2022*
DLR, Germany & Wuhan University, China

- Propose a density measurement and density-aware object detection with JS divergence.

Oriented Tiny Object Detection (*Mentor: Prof. Gui-song Xia*) *Mar. 2022 – Dec. 2022*
Wuhan University, China

- Design a dynamic prior along with a coarse-to-fine learning scheme for oriented object detection.

Tiny Object Detection in Aerial Images (*Mentor: Prof. Wen Yang*) *Nov. 2020 – Mar. 2022*
Wuhan University, China

- Systematically introduce a new dataset, benchmark and detector for tiny object detection in aerial images.

SELECTED PUBLICATIONS [Full List]

(* denotes equal contribution)

[1] Yan Zhang*, **Chang Xu***, Wen Yang, Guangjun He, Huai Yu, Lei Yu, Gui-song Xia. Drone-based RGBT Tiny Person Detection[J]. **ISPRS Journal of Photogrammetry and Remote Sensing**, 2023. [Link]

[2] **Chang Xu**, Jian Ding, Jinwang Wang, Wen Yang, Huai Yu, Lei Yu, Gui-song Xia. Dynamic Coarse-to-Fine Learning for Oriented Tiny Object Detection[C]. **CVPR**, 2023. [Link]

[3] **Chang Xu**, Jinwang Wang, Wen Yang, Huai Yu, Lei Yu , Gui-song Xia. RFLA: Gaussian Receptive Field based Label Assignment for Tiny Object Detection[C]. **ECCV**, 2022. [Link]

[4] **Chang Xu***, Jinwang Wang*, Wen Yang, Huai Yu, Lei Yu, Gui-song Xia. Detecting Tiny Objects in Aerial Images: A Normalized Wasserstein Distance and A New Benchmark[J]. **ISPRS Journal of Photogrammetry and Remote Sensing**, 2022. [Link]

[5] **Chang Xu**, Jinwang Wang, Wen Yang, Lei Yu. Dot Distance for Tiny Object Detection in Aerial Images[C]. **CVPRW, EarthVision**, 2021. [Link]

[6] Xu Lei, **Chang Xu**, Wensheng Chen, Wen Yang, Gui-song Xia. A3Track: Achieving Precise Target Tracking in Aerial Image with Receptive Field Alignment[J]. **IEEE Transactions on Geoscience and Remote Sensing**, 2023. [Link]

[7] Bingde Liu, **Chang Xu**, Wen Yang, Huai Yu, Lei Yu. Motion Robust High-Speed Light-Weighted Object Detection with Event Camera[J]. **IEEE Transactions on Instrumentation & Measurement**, 2023. [Link]

[8] Haoran Zhu*, **Chang Xu***, Wen Yang, Ruixiang Zhang, Yan Zhang, Gui-song Xia. Robust Tiny Object Detection in Aerial Images under Label Noise[J]. **ISPRS Journal of Photogrammetry and Remote Sensing**, 2024. (Under review)

[9] Ruixiang Zhang, **Chang Xu**, Fang Xu, Wen Yang, Guangjun He, Huai Yu, Lei Yu, Gui-song Xia. Rethinking Scale Imbalance in Semi-supervised Object Detection for Aerial Images[J]. **IEEE Transactions on Geoscience and Remote Sensing**, 2024. (Under review)

[10] Haitian Zhang, **Chang Xu**, Xinya Wang, Bingde Liu, Guang Hua, Lei Yu, Wen Yang. Detecting Every Object in Event-based Vision[J]. **IEEE Transactions on Pattern Analysis and Machine Intelligence**, 2024. (Under review)

COMPETITIONS and AWARDS

Best Presentation Award of ICDIP 2023. *May 2023*
Outstanding Undergraduate Thesis of Wuhan University. (Top 5%) *Jun. 2021*
1^{st} **Prize** of 2019 China Undergraduate Electronics Design Contest (Hubei). *Jul. 2019*
Outstanding Student of Wuhan University. *2018, 2019, 2020, 2022, 2023*

SKILLS

Programming: Python, C/C++, MATLAB
Tools & Libraries: PyTorch, Git, LATEX, OpenCV, Docker
Language: Mandarin Chinese [native], English [CET-6 (585), TOEFL (99)]