

# Chang Xu (徐畅)

ECEO lab, EPFL, Sion, 1950, Switzerland

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## EDUCATION

- École Polytechnique Fédérale de Lausanne (EPFL) Sion, Switzerland** Oct. 2024 – Present.  
*PhD Candidate in Environmental Computational Science and Earth Observation*
- Supervisor: Prof. [Devis Tuia](#)
  - Research Interest: Multi-modal Learning, Climate Modelling
- Wuhan University Wuhan, China** Sep. 2021 – Jun. 2024  
*Master in Communication and Information System*
- Supervisor: Prof. [Wen Yang](#)
  - Research Interest: Small Object Detection, Event-based Vision, Multi-modal Learning
- École Polytechnique Fédérale de Lausanne (EPFL) Sion, Switzerland** Jul. 2023 – Oct. 2023  
*Exchange Master Student*
- Supervisor: Prof. [Devis Tuia](#)
  - Research Interest: Vision Language Models for Remote Sensing, Geo-localisation
- University of Oxford Oxford, Britain** Jan. 2020 – Feb. 2020  
*Visiting Student*
- Academic Writing and Academic Presentation
- Wuhan University Wuhan, China** Sep. 2017 – Jun. 2021  
*B.S. of Electronic Information Engineering*
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## SELECTED RESEARCH EXPERIENCE

- Geo-localisation and Vision Language Models for Remote Sensing (Mentor: Prof. [Devis Tuia](#))** Jul. 2023 – Oct. 2023  
*EPFL, Switzerland*
- Use language as a bridge to transfer knowledge between aerial images and natural images.
- Density Measurement and Density-aware Detection (Mentor: Prof. [Wen Yang](#), 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. [Wen Yang](#), 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.
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## SELECTED PUBLICATIONS [[Full List](#)]

(\*equal contribution, †corresponding author)

- [1] Li Mi\*, **Chang Xu**\*<sup>†</sup>, Javiera Castillo-Navarro, Syrielle Montariol, Wen Yang, Antoine Bosselut, Devis Tuia. ConGeo: Robust Cross-view Geo-localization across Ground View Variations. *ECCV*, 2024. [[Link](#)]
- [2] Yan Zhang\*, **Chang Xu**\*, Wen Yang<sup>†</sup>, Guangjun He, Huai Yu, Lei Yu, Gui-song Xia. Drone-based RGBT Tiny Person Detection. *ISPRS Journal of Photogrammetry and Remote Sensing*, 2023. [[Link](#)]
- [3] **Chang Xu**, Jian Ding, Jinwang Wang, Wen Yang<sup>†</sup>, Huai Yu, Lei Yu<sup>†</sup>, Gui-song Xia. Dynamic Coarse-to-Fine Learning for Oriented Tiny Object Detection. *CVPR*, 2023. [[Link](#)]
- [4] **Chang Xu**, Jinwang Wang, Wen Yang<sup>†</sup>, Huai Yu, Lei Yu, Gui-song Xia. RFLA: Gaussian Receptive Field based Label Assignment for Tiny Object Detection. *ECCV*, 2022. [[Link](#)]
- [5] **Chang Xu**\*, Jinwang Wang\*, Wen Yang<sup>†</sup>, Huai Yu, Lei Yu, Gui-song Xia. Detecting Tiny Objects in Aerial Images: A Normalized Wasserstein Distance and A New Benchmark. *ISPRS Journal of Photogrammetry and Remote Sensing*, 2022. [[Link](#)]

- [6] **Chang Xu**, Jinwang Wang, Wen Yang<sup>†</sup>, Lei Yu. Dot Distance for Tiny Object Detection in Aerial Images. **CVPRW, EarthVision**, 2021. [[Link](#)]
- [7] Xu Lei, **Chang Xu**, Wensheng Chen, Wen Yang<sup>†</sup>, Gui-song Xia. A3Track: Achieving Precise Target Tracking in Aerial Image with Receptive Field Alignment. **IEEE Transactions on Geoscience and Remote Sensing**, 2023. [[Link](#)]
- [8] Bingde Liu, **Chang Xu**, Wen Yang<sup>†</sup>, Huai Yu, Lei Yu. Motion Robust High-Speed Light-Weighted Object Detection with Event Camera. **IEEE Transactions on Instrumentation & Measurement**, 2023. [[Link](#)]
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## COMPETITIONS and AWARDS

**Best Presentation Award** of ICDIP 2023.

*May 2023*

**Outstanding Undergraduate Thesis** of Wuhan University. (Top 5%)

*Jun. 2021*

**1<sup>st</sup> Prize** of 2019 China Undergraduate Electronics Design Contest (Hubei).

*Jul. 2019*

**Outstanding Student** of Wuhan University.

*2018, 2019, 2020, 2022, 2023*

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## SKILLS

**Programming:** Python, C/C++, MATLAB

**Tools & Libraries:** PyTorch, Git, LATEX, OpenCV, Docker

**Language:** Mandarin Chinese [native], English [CET-6 (585), TOEFL (99)]