Xiuheng Wang

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Address: Campus Aiguillettes, F-54000 Nancy, France.
Place of birth: Anhui, China • Date of birth: 4th Sep. 1996
https://xiuheng-wang.github.io/

APPOINTMENTS

Postdoctoral researcher, Université de Lorraine, Nancy, France — Oct. 2024 – present

EDUCATION

Université Côte D'Azur, Nice, France

- Ph.D. in Electrical Engineering / Doctorat Sciences pour L'Ingenieur — Jun. 2021 – Jun. 2024
  - Thesis: Joint Modeling and Learning Approaches for Hyperspectral Imaging and Change Point Detection
  - Supervisor: Prof. Cédric Richard

Northwestern Polytechnical University, Xi'an, Shaanxi, China

- M.S. in Signal and Information Processing — Sep. 2018 – Mar. 2021
- B.S. in Electronic and Information Engineering — Sep. 2014 – Jul. 2018

RESEARCH

Research areas: Signal Processing (SP) and Machine Learning (ML), in particular,

- Riemannian optimization
- Change point detection
- Hyperspectral imaging

SELECTED PUBLICATIONS

Full list: https://scholar.google.com/citations?user=xyfMMGIAAAAJ&hl=en

JOURNAL AND ML CONF. PAPERS

- X. Wang, R. A. Borsoi, C. Richard, A. H. Sayed, "Riemannian Diffusion Adaptation for Distributed Optimization on Manifolds", International Conference on Machine Learning (ICML), Vancouver, Canada, July 2025.
- X. Wang, R. A. Borsoi, C. Richard, "Non-Parametric Online Change Point Detection on Riemannian Manifolds", International Conference on Machine Learning (ICML), Vienna, Austria, July 2024.
- X. Wang, R. A. Borsoi, J. Chen, C. Richard, "Deep Hyperspectral and Multispectral Image Fusion with Inter-Image Variability", IEEE Transactions on Geoscience and Remote Sensing (T-GRS), 2023.
- X. Wang, J. Chen, C. Richard, "Tuning-Free Plug-and-Play Hyperspectral Image Deconvolution with Deep Priors", IEEE Transactions on Geoscience and Remote Sensing (T-GRS), 2023.
- J. Chen, M. Zhao, X. Wang, C. Richard, S. Rahardja, "Integration of Physics-Based and Data-Driven Models for Hyperspectral Image Unmixing", IEEE Signal Processing Magazine (SPM), 2023.
- X. Wang, J. Chen, Q. Wei, C. Richard, "Hyperspectral Image Super-Resolution via Deep Prior Regularization with Parameter Estimation", IEEE Transactions on Circuits and Systems for Video Technology (T-CSVT), 2021.
- M. Zhao*, X. Wang* (equivalent contribution), J. Chen, W. Chen, "A Plug-and-Play Priors Framework for Hyperspectral Unmixing", IEEE Transactions on Geoscience and Remote Sensing (T-GRS), 2021.

SP CONF. PAPERS

- X. Wang, R. A. Borsoi, A. Breloy, C. Richard, "Riemannian Change Point Detection on Manifolds with Robust Centroid Estimation", European Signal Processing Conference (EUSIPCO), Palermo, Italy, Sep. 2025.
- X. Wang, R. A. Borsoi, C. Richard, "Riemannian Diffusion Adaptation over Graphs with Application to Online Distributed PCA", IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), Seoul, Korea, Apr. 2024.
- X. Wang, R. A. Borsoi, C. Richard, A. Ferrari, "Distributed Change Point Detection in Streaming Manifold-valued Signals over Graphs", Asilomar Conference on Signals, Systems and Computers (ACSSC), Pacific Grove (CA), USA, Oct. 2023.
- X. Wang, R. A. Borsoi, C. Richard, "Online Change Point Detection on Riemannian Manifolds with Karcher Mean Estimates", European Signal Processing Conference (EUSIPCO), Helsinki, Finnland, Sep. 2023.

- X. Wang, R. A. Borsoi, C. Richard, J. Chen, “Change Point Detection with Neural Online Density-Ratio Estimator”, IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), Rhodes Island, Greece, June 2023.
- X. Wang, R. A. Borsoi, C. Richard, J. Chen, “Deep Image Fusion Accounting for Inter-Image Variability”, Asilomar Conference on Signals, Systems and Computers (ACSSC), Pacific Grove (CA), USA, Nov. 2022.
- X. Wang, J. Chen, C. Richard, “Hyperspectral Image Super-Resolution with Deep Priors and Degradation Model Inversion”, IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), Singapore, May 2022.
- X. Wang, M. Zhao, J. Chen, “Hyperspectral Unmixing via Plug-and-Play Prior”, IEEE International Conference on Image Processing (ICIP), Abu Dhabi, United Arab Emirates, Oct. 2020.
- X. Wang, J. Chen, C. Richard, D. Brie, “Learning Spectral-Spatial Prior via 3DDNCNN for Hyperspectral Image Deconvolution”, IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), Barcelona, Spain, May 2020.

WORKSHOPS AND ABSTRACTS

- X. Wang, R. A. Borsoi, C. Richard, ”Non-parametric Online Change Point Detection on Riemannian Manifolds”, Statistical Learning for Signal and Image Processing (SLSIP) Workshop, Porquerolles, France, May 2024.
- X. Wang, M. Zhao, J. Chen, C. Richard, ”Hyperspectral Image Unmixing with Neural Networks: Integration of Physics-Based and Data-Driven Models”, GdR IASIS Réunion “Apprentissage et modélisation physique”, Paris, France, June 2022.

SCHOLARSHIPS & AWARDS

- **Chinese government award for outstanding self-financed students abroad** ($ 6000) 2024
- Fully funded PhD scholarships from Observatoire de la Côte d’Azur 2021 – 2024
- EURASIP Student Travel Grants (€ 750) 2023
- Champion of Grand Challenges on NIR Image Colorization in IEEE VCIP ($ 1000) 2020

ACADEMIC SERVICE & ACTIVITIES

Guest Editor for journals including: Remote Sensing

Tutorial Speaker for conferences including: IEEE MLSP

Reviewer for journals and conferences including:

- IEEE journals: T-IP, J-STSP, T-CSVT, T-CAS-II, OJSP, GRSL
- IEEE conferences: ICASSP
- Elsevier journals: Signal Processing

LANGUAGES

- Chinese: Native language.
- English: Fluent (speaking, reading, writing).
- French: Elementary.

REFERENCES

- **Prof. Cédric Richard**
  Université Côte d’Azur
  Parc Valrose, 06108 Nice cedex 2, France
  cedric.richard@unice.fr • +33 04 92 07 63 94
- **Prof. Jie Chen**
  Northwestern Polytechnical University
  No.127, Youyi West Road, Xi’an, Shaanxi, China
  jie.chen@nwpu.edu.cn • +86 152 9186 8961
- **Dr. Ricardo A. Borsoi**
  Université de Lorraine
  Campus Aiguillettes, F-54000 Nancy, France
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[*CV compiled on 2025-06-27*]