Xiuheng Wang

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EDUCATION

Université Côte D'Azur, Nice, France

- Ph.D. in Electrical Engineering / Doctorat Sciences pour L'Ingenieur — Jun. 2021 – Jun. 2024
  - Supervisor: Professor Cédric Richard
  - Laboratory: Laboratoire Lagrange (UMR CNRS 7293, Observatoire de la Côte d'Azur)
  - Thesis: Joint Modeling and Learning Approaches for Hyperspectral Imaging and Change Point Detection

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

- Optimization on manifolds
- Change point detection
- Hyperspectral image analysis

PUBLICATIONS

JOURNAL AND ML CONF. PAPERS

- 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, 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, 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, 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, 2022.
- 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, 2022.

SP CONF. PAPERS

- 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 (ASILOMAR), 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 (ASILOMAR), 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), 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

- M. van den Ende, X. Wang, R. Borsoi, D. Rivet, A. Ferrari, and C. Richard, ”Leveraging the spatio-temporal coherence of DAS data for detection and classification”, Galileo conference: Fibre Optic Sensing in Geosciences, Catania, Italy, June 2024.
- 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 Université Côte d’Azur, CNRS, OCA 2021 – 2024
- EURASIP Student Travel Grants (€ 750) 2023
- GdR ISIS mobility grant (€ 325) 2022
- Champion of Grand Chanllenges on NIR Image Colorization in IEEE VCIP ($ 1000) 2020

ACADEMIC SERVICE & ACTIVITIES

Reviewer for journals including:

- IEEE journals: TIP, TCSVT, TCAS-II, OJSP, GRSL
- IEEE conferences: ICASSP

OTHER WORK EXPERIENCE

CVTE Central Research Institute, Guangzhou, Guangdong, China

- Research intern in machine vision 2019 – 2020

LANGUAGES

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

REFERENCES

- **Professor Cédric Richard**
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- **Professor Jie Chen**
  Northwestern Polytechnical University
  No.127, Youyi West Road, Xi’an, Shaanxi, China
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- **Ricardo Augusto Borsoi**
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[*CV compiled on 2024-07-10*]