Xiaoyu Wang

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RESEARCH INTEREST

Remote sensing, Yield prediction, Knowledge-guided machine learning

EDUCATION

2023.1 – **Ph.D** — **University of Wisconsin-Madison**
Biological Systems Engineering

2017 – 2021 **Bachelor** — **Xi'an Jiaotong University**
Computer Science and Technology

EXPERIENCE

2021.4 – 2022.4 **Internship** — **Microsoft Research Asia**, supervised by **Xiangyu Kong** and **Xiulian Peng**
Research on Audio front-end processing: Speech Separation and Enhancement

2020.9 – 2021.3 **Internship** — **Sensetime**, supervised by **Tao Ma** and **Yikang Li**
Work on autonomous driving system, sensor calibration algorithm and train deep learning model

2020.6 – 2020.9 **Remote Summer Intern** — **Nanyang Technological University**, supervised by **Tao Bai** and **Jun Zhao**
Research on Adversarial Example and Federated Learning

2019.1 – 2019.9 **Research Assistant** — **College of Artificial Intelligence, XJTU**, supervised by **Jinjun Wang**
Research on distributed GAN

2019.6 – 2020.2 **Internship** — **INNNO**
do some projects about remote sensing, semantic segmentation and change detection

2017.10 – 2018 **Research Assistant** — **Xi'an Jiaotong University**, supervised by **Jinsong Han**
Research on computer security and deep learning

PUBLICATION

Jounal

2025

Learning county from pixels: Corn yield prediction with attention-weighted multiple instance learning
Xiaoyu Wang, *Yuchi Ma, Yijia Xu, Qunying Huang, Zhengwei Yang, Zhou Zhang*
Accepted by International Journal of Remote Sensing (IJRS) 2025

Conference

2024

County Level Crop Yield Prediction Using Smap Derived Data Products and Deep Learning Model
Zhengwei Yang, ***Xiaoyu Wang****, Jingyi Huang, Zhou Zhang*
Accepted by IGARSS 2024-2024 IEEE International Geoscience and Remote Sensing Symposium

2022

MULTI-MODAL MULTI-CORRELATION LEARNING FOR AUDIO-VISUAL SPEECH SEPARATION
***Xiaoyu Wang**, Xiangyu Kong, Xiulian Peng, Yan Lu*
Accepted by Interspeech 2022

2021
A data-free approach for targeted universal adversarial perturbation
***Xiaoyu Wang**, Tao Bai, Jun Zhao*
Accepted by SciSec 2021

Preprint
2025
Knowledge-guided machine learning model with soil moisture for corn yield prediction under drought conditions
***Xiaoyu Wang**, Yijia Xu, Jingyi Huang, Zhengwei Yang, Zhou Zhang*
Submitted

GRANTS

2025 BSE Travel Award of UW-Madison, 2025. ($1000)

HONORS&AWARDS

2017 third class award of Xi'an Jiaotong University. (GPA 20%)

TEACHING EXPERIENCE

2024
BSE 405, ARTIFICIAL INTELLIGENCE IN AGRICULTURE
University of Wisconsin–Madison
Make homework and GEE lab code

PRESENTATION

2025
Abstract
Knowledge-guided machine learning model with soil moisture for corn yield prediction under drought conditions
Accepted by AGU 2025

2025
Abstract
A knowledge-guided machine learning model with soil moisture for corn yield prediction under drought conditions
Accepted by ASABE 2025

2024
Abstract
Developing a Novel Knowledge-Guided Deep Learning Algorithm for County Level Crop Yield Prediction in the Face of Climate Change in the US Midwest
Accepted by AGU 2024

2024
Poster
Learning county from pixels: Corn yield prediction with attention-weighted multiple instance learning
poster in UW-Madison College of Agricultural and Life Sciences

TALKS

2025
Knowledge-guided machine learning model with soil moisture for corn yield prediction under drought conditions
BSE 901, University of Wisconsin–Madison

2024
Learning county from pixels: Corn yield prediction with attention-weighted multiple instance learning
BSE 901, University of Wisconsin–Madison

PROFESSIONAL SERVICES

Journal reviewer
International Journal of Applied Earth Observation and Geoinformation (JAG)

PROGRAMING LANGUEGE & SKILL

(Proficiency from top to bottom)

python:
anaconda

C++:
cmake; docker

LaTeX:
overleaf

Shell

CUDA C:
cudnn; cublas

matlab

TOOL

(Proficiency from left to right)

Coding:
ubuntu; git

GIS:
QGIS; ArcGIS; gdal

Deep Learning:
pytorch; tensorflow; TensorRT

Computer Vision:
opencv

Slam:
pcl; ros

Audio:
librosa; asteroid; ffmpeg; Kaldi