Mingda Wu

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EDUCATION

Capital Normal University   2020-Present

Bachelor of Science in Geographic Information Science   Beijing, China

- GPA: 4.34/5, Ranking: 1/20
- Estimate Graduation Date: June 2024
- Courses: Human Geography (94/100)
          Cartography (94/100)
          Computer Applications (96/100)

Northern Illinois University   2021-2023

Bachelor of Science in Geography (GIS Certificate)   DeKalb, IL, USA

- GPA: 3.98/4
- Exchange Student
- Full University Honor
- Summa Cum Laude
- Courses: GEOG 493: Computer Program for the Geosciences (A)
          GEOG 460: Remote Sensing of the Environment (A)
          GEOG 361: Geographic Measurement Quantitative Analysis (A)

PUBLICATION

Pixel-Wise Machine Learning and Deep Learning Methods Implementation on Multi-Class Wildfire Mapping   May 2023

Mingda Wu

Northern Illinois University Huskie Commons

- Supervised by Dr. Wei Luo from Northern Illinois University

PREPRINT

Pixel-wise Wildfire Burn Severity Classification with Bi-temporal Sentinel-2 Data and Deep Learning   Sep 2023

Mingda Wu, Qunying Huang, Tang Sui, Meiliu Wu

ICBDT 2023 Conference Proceedings

- Supervised by Dr. Qunying Huang from University of Wisconsin-Madison

- Archived in ACM Digital Library
- Indexed by Ei Compendex and Scopus

ABSTRACT SUBMISSION

Empowering Wildfire Damage Assessment with Bi-temporal Sentinel-2 Data and Deep Learning Upcoming Dec 2023

Qunying Huang, **Mingda Wu**, Tang Sui, Meiliu Wu

AGU Annual Meeting 2023 San Francisco, USA

Empowering Urban Wildfire Burnt Area Detection with Deep Learning Aug 2023

Tang Sui, **Mingda Wu**, Meiliu Wu, Qunying Huang

The 3rd International Conference on Urban Informatics Hong Kong, China

RESEARCH EXPERIENCES

Jing-Jin-Ji GeoData Center at Capital Normal University
Independent research lab member, supervised by Dr. jinyan Tian Sep 2023-Present

- Conducting research on super resolution with satellite data
- Focused on the Sporobolus alterniflorus in China mainland.

Spatial Computing and Data Mining Lab at University of Wisconsin-Madison
Independent research lab member, supervised by Dr. Qunying Huang Jan 2023-Present

- Examined the advantages of using Deep learning models to perform multiclass wildfire classification.
- Proposed a Bi-temporal U-Net model to get a better accuracy, especially for mean IoU value.
- Employed attention gates and residual blocks to enhance the model's performance on tough dataset.
- Combined automated and traditional thresholding labeling method to optimize the experience of labeling deep learning images.
- Explored band compositions of Sentinel 2 and which bands are sensitive to wildfire.

Department of Earth, Atmosphere and Environment at Northern Illinois University

Senior independent research member, supervised by Dr. Wei Luo Jan 2023-May 2023

- Used machine learning models to classify wildfire incidents.
- Applied multiple models, including Random Forest, XGBoost, and SVM.
- Employed cross validation to tune the models.
- Evaluated accuracy with various metrics, such as OA, F1-score, IoU, etc.

AWARDS AND HONORS

Excellent Presentation Award   Sep 2023

2023 6th International Conference on Big Data Technologies

- Awarded to the No. 1 for each session.

Richard E. Dahlberg Scholarship   May 2023

Department of Earth, Atmosphere and Environment, Northern Illinois University

- Awarded to the No. 1 in the department.

First Place of the undergraduate group at ILGISA Poster Symposium   May 2023

Illinois Geographic Information System Association

Third Place of the environmental category at CURE Poster Symposium   Apr 2023

Northern Illinois University

Second place of general news photo for excellence in Illinois college newspaper   Feb 2023

Illinois College Press Association

Major Third-Class Scholarship   Spring 2022

Capital Normal University

WORK EXPERIENCES

Senior Photojournalist   Aug 2021-May 2023

Northern Star, Northern Illinois University

- Photographing significant occasions, sporting events, and conducting concise interviews.

Scanning Technician   Aug 2022-Dec 2022

Founders Memorial Library, Northern Illinois University

- Scanning and digitizing antiquated books to contribute to the online library.

Photographer   Sep 2020-Jun 2021

Youth Radio & College of Geospatial Information Science and Technology Department of News, Capital Normal University

- Capturing important moments and sports events through photography.

VOLUNTEERING EXPERIENCES

Volunteer of "Week of Welcome 2022"   Aug 2022

• Responsible for giving out flags and guiding people the way, as well as arranging the welcome picnic.

Volunteer of "Give DeKalb 2022"   Mar 2022

- Participated in the annual event of DeKalb County. Responsible for making advertising board.