FANYOU WU

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ACADEMIC EMPLOYMENT

Department of Forestry and Natural Resources, Purdue University Jan 2022 - Current
Postdoc Research Assistant
Develop a forest measurement App to estimate tree diameter, height, species, and more.
Develop algorithms to estimate tree growth ring edges.

EDUCATION

Purdue University Jan 2018 - Dec 2021
Ph.D in Forestry

University of Eastern Finland Sep 2015 - Apr 2017
M.S. in Wood Material

Nanjing Forestry University Sep 2011 - Jun 2015
B.E in Wood Material

University of British Columbia Aug 2013 - May 2014
Exchange student in Wood Products Processing

SELECTED PUBLICATIONS

🌲 Forestry | 🚥 Transportation | ✍️ Co-first Author | 🔢 JCR Quartile Ranking

Liu, Y., Wang, K., **Wu, F.**, Liu, Z., & Qu, X. (2022). 🚥 Representation, Learning and Inference for Real-world Delivery Route Optimization. 1️⃣ Transportation Science. [*UnderReview*]

Liu, Y., **Wu, F.**, Lyu, C., Liu, X., Li, S., Ye, J. & Qu, X. (2022). 🚥 Deep Dispatching: A Deep Reinforcement Learning Approach for Vehicle Dispatching on Online Ride-hailing Platform. 1️⃣ Transportation Research Part E: Logistics and Transportation Review. [*link*]

Wu, F., Gazo, R., Benes, B., & Haviarova, E. (2021). 🌲 Deep BarkID - A Portable Tree Bark Identification System by Knowledge Distillation. 1️⃣ European Journal of Forest Research. [*link*]

Wu, F., Gazo, R., Haviarova, E., & Benes, B. (2021). 🌲 Wood identification based on longitudinal section images by using deep learning. 1️⃣ Wood Science and Technology, 55(2), 553-563. [*link*]

Liu, Y., ✍️ **Wu, F.**, Lyu, C., Liu, X., & Liu, Z. (2021). 🚥 Behavior2vector: Embedding Users' Personalized Travel Behavior to Vector. 1️⃣ IEEE Transactions on Intelligent Transportation Systems. [*link*]

Wu, F., Gazo, R., Haviarova, E., & Benes, B. (2019). Efficient Project Gradient Descent for Ensemble Adversarial Attack. IJCAJ 19 workshop. [*link*]

Wu, F., & Kärenlampi, P.P. (2017). Phase Transition in A Growing Network. Journal of Complex Networks. [*link*]

*Check *Google Scholar* or *my website* for full publication list.

COMPETITIONS WITH CASH PRIZE

CVRP 2021 The 2nd Agriculture-Vision Prize Challenge 2021
2nd, 3000+1200 USD [*link*]
Develop models for farmland prediction based on image segmentation models.

NeurIPS 2020 Traffic4cast Competition 2020
2nd, 5000 USD [*link*]
Develop models for traffic map movies prediction based on image segmentation models.

KDD CUP 2020 Reinforcement Learning Competition Track 2020
1st in Reposition Track, 8000 USD [*link*]
Develop vehicle repositioning models based on Deep-Q learning.

IJCAI-19 Alibaba Adversarial AI Challenge-Competition 2019
1st in Traget Attack Track, 5000 USD [*link*]
Develop adversarial attack methods based on a modification of Projection Gradients Descents.

KDD CUP 2019 Regular Machine Learning Competition Track 2019
4th, 1000 USD [*link*]
Develop transportation recommendation models based on tree ensemble and node embedding.

Other Competitions 2017 – 2018
In total, more than 30000 USD [*link*]
Develop competitions solution mainly based on classic data mining models.

TEACHING EXPERIENCE

FNR 210: Natural Resource Information Management Jan 2021 - Apr 2021
Teaching Assistant
Introduction to analysis and management of natural resources data with special emphasis on geographic information systems (GIS) and applications in ArcGIS Pro.

FNR 311 - Structure, Identification And Properties Of Woody Biomaterials Jan 2019 - Apr 2019
Teaching Assistant
An outline and the identification of macro characteristics of commercially important woody biomaterials (color, odor, cellular arrangement, grain patterns, character marks, etc.) through laboratory exercises and field trips.

INTERNSHIP

Envision Digital Aug 2017 - Dec 2017
Machine Learning Engineer
Develop machine learning solution for better predicting user demand of electricity.