YANG WANG

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EDUCATION

University of Pittsburgh, School of Computer and Information — Pittsburgh, U.S.
Ph.D. student in Information Science — 08/2020 – present
University of Pittsburgh, Swanson School of Engineering — Pittsburgh, U.S.
Master of Engineering in Civil Engineering — 09/2018– 08/2020
Main Courses:Data Mining, Machine Learning, Social Computing, Data Analytics, Spatial Data Analytics, Applied Advanced Time Series, Time Series 1, Advanced Remote Sensing, Advanced Hydrology, etc.
China Institute of Water Resources and Hydropower Research, — Beijing, China
Ph.D. in Hydrology and Water Resources — 09/2015 –06/2018
Main Courses： Hydrological Models, Ecological Hydrology, Numerical Solution of Partial Differential Equation, etc.
Hohai University, College of Hydrology and Water Resources — Nanjing, China
Master of Engineering in Hydrology and Water Resources — 09/2012 – 09/2015
Main Courses： Runoff Theory, Modern Hydrologic Simulation and Prediction, Pedo-hydrology, Risk Analysis of Hydrological Water Resources, Optimal Operation of Reservoirs System, Eco-hydrology, Computational Hydraulics, Method of Optimization, etc.
University of Jinan, School of Resources and Environment — Jinan, China
Bachelor of Science in Resource-Environment and City-Countryside Plan-Management — 09/2008- 09/2012
Main Courses： Principles of Hydrology, Hydrometry, Programming and Management of Water Resources, Economics of Water Resources, Water Quality Model, Water Environment Protection, Water Resources Utilization, etc.

PUBLICATIONS

- **Yang Wang**. Study on the Effect of Multiple Data Assimilation Containing Radar Data on WRF Simulation. American Geophysical Union Fall Meeting, 2019, San Francisco.
- **Yang Wang**, Chuanzhe Li, Jia Liu, Fuliang Yu, Qingtai Qiu, Jiyang Tian and Mengjie Zhang. Multivariate Analysis of Joint Probability of Different Rainfall Frequencies Based on Copulas. WATER, 2017, 9(3), 198.
- **Yang Wang**, Chuanzhe Li, Mengjie Zhang, Jia Liu and Hanjiang Nie. Research of Tide Level Consistency Correction for Nanjing Station, MATERIALS SCIENCE FORUM, 110(3), 310-316.
- Tian J, Liu J, **Wang Y**, et al. A coupled atmospheric–hydrologic modeling system with variable grid sizes for rainfall–runoff simulation in semi-humid and semi-arid watersheds: how does the coupling scale affects the results?[J]. Hydrology and Earth System Sciences, 2020, 24(8): 3933-3949.
- Chuanzhe Li, Jia Liu, Fuliang Yu, **Yang Wang**, Qingtai Qiu. Quantitative evaluation on the changes of the flood-season streamflow caused by climate change and human activities in Yanhe River Basin of the Loess Plateau. *Seventh International Conference on Flood Management.*
- Jia Liu, Jiyang Tian, Chuanzhe Li, Fuliang Yu, Shuanghu Cheng, **Yang Wang**. Application and comparison of three data-driven models for groundwater level prediction in Shijiazhuang Plain. *7th International Conference on Integrated Water Resources Management 2016, At Bochum, Germany.*
- Wang Jianqun, Guo Kun, **Wang Yang**. Application of ZY-3 Remote Sensing Image in the Research of Huashan Hydrological Experimental Watershed. *The Third International Conference on the GIS/RS, Hydrology & Water Resources and Environment*.
- Xiaoqing Shi, Tianling Qin, Denghua Yan, Ruochen Sun, Shuang Cao, Lanshu Jing, **Yang Wang**, Boya Gong. Evolution characteristics and cause analysis of the Water Yield Coefficient in Huang-Huai-Hai River Basin for the past 50 years in China. ADVANCES IN METEOROLOGY, 2018.
- Hanjiang Nie, Tianling Qin, Chuanzhe Li, Baisha Weng and **Yang Wang**. Rend analysis of effective precipitation in different growth stages of winter wheat in Huaihe River Plain. THEORETICAL AND APPLIED CLIMATOLOGY, 2019, 138, 2043-2056.
- Wang Jianqun, **Wang Yang**, Guo Kun and Liu Songping. Coupled Simulation of Runoff and Nitrogen in Huashan

Hydrological Experimental Watershed, JOURNAL OF CHINA HYDROLOGY,35(1), 40-44 (In Chinese)

- Wang Jianqun, Guo Kun Liu Songping and **Wang Yang**. Analysis of characteristics of nitrogen loss in Huashan hydrological experimental watershed. WATER RESOURCES PROTECTION, 31(2), 1-6 (In Chinese)
- **United States Patent Application Publication:**
  Jia Liu, Chuanzhe LI, Jiyang TIAN, Fuliang Yu, **Yang WANG**, Self-correcting Multi-model Numerical Rainfall Ensemble Forecasting Method, Pub. No.: US20170261646A1

RESEARCH EXPERIENCES

Identifying Changes in Discourse on Mass-Shootings Using Reddit Comments, Class Project **2019**

- ✓ Word vector and k-Means for clusting;
- ✓ Decide what topic the cluster represents using word cloud and manual inspection;
- ✓ Chi-squared Test identifies whether there is association between time and topic;
- ✓ Case study of four shooting events based on different time windows.

A Predictive Model for Progression of Chronic Kidney Disease to Kidney Failure, Class Project **2019**

- ✓ Led group of 4 students;
- ✓ analyzes the risks involved in the process of CKD reaching kidney failure by screening key predictive variables so as to establish the predictive model;
- ✓ The result suggests that the value of Receiver Operating Characteristic (ROC) of logit model turns out to be 0.92.

Studies on Real-time Flood Forecasting based on Land-Atmosphere Coupling Model in Small Scale Watershed
Researcher, Supervised by Prof. Jia Liu **09/2015-06/2018**

- ✓ Determined the specific assimilation scheme according to the data quality and update frequency of the watershed;
- ✓ Established the distributed hydrological model, coupled with the output rainfall on corresponding scale WRF model;
- ✓ Screened out the optimal spatial scale of land-atmosphere coupling for the targeted watershed;
- ✓ Introduced the real-time correction technology of hydrological forecasting in the coupled forecasting system to further amend the error of the WRF rainfall prediction products in the process of runoff conversion.

Studies on Water Security Technology of Grain Ecology in Songhua River Basin
Researcher, Supervised by Prof. Chuanzhe Li **06/2016-06/2018**

- ✓ Studied the eco-environmental water requirement of Songhua river basin and established the calculation model;
- ✓ Analyzed the trend and competition of external water demand in Songhua river and built a scheme for water supply;
- ✓ Deeply studied the optimal allocation model of water resources on the basis of food ecological security.

The Standardization Research on the Security Technology of Rural Drinking Water and the Demonstration of Scale Application
Researcher, Supervised by Prof. Fuliang Yu **12/2015-06/2018**

- ✓ Systematically investigated the construction and operation management of rural water supply project;
- ✓ Established the optimal allocation model of drinking water in county specific to the water source with different characteristics, such as poor water quality area, arid area and reservoir type water source, ect.;
- ✓ Completed the optimal allocation model of drinking water in the selected demonstration country.

Studies on the Utilization of Water Resources in the Yellow River and Murray-Darling Basin under the Changing Environment
Researcher, Supervised by Prof. Hao Wang **06/2015-03/2016**

- ✓ Constructed the "Ecological-Hydrological-Economic" coupling model; set up the evaluation index system of the coordinated development of water resources and social economy and introduced the intelligent decision theory;
- ✓ Adopted the optimization model on the basis of the initial allocation theory of agricultural water right and the agricultural

water transfer;

- ✓ Formed the water allocation and trading system based on water rights, learning from the successful experience of water resources management domestic and overseas.

Project of Groundwater Subarea Forecast System in Hebei Province

Researcher, Supervised by Prof. Fuliang Yu **09/2015-05/2016**

- ✓ Compared and selected the groundwater subarea prediction model, including the correlation method, neural network method and multiple linear regression method;
- ✓ Confirmed the calculation method of the essential hydrogeological parameters for the calculation and evaluation of groundwater resources;
- ✓ Accomplished the overall design of groundwater subarea prediction system in Hebei province.

Studies on the Evolution Mechanism of Precipitation Runoff in the Plain Area under the Changing Environment

Researcher, Supervised by Prof. Fuliang Yu **10/2015-12/2016**

- ✓ Simulated the precipitation runoff to analyze the influence of slope, vegetation type, coverage and rainfall characteristics on the process of water flow reduction and the main flow mechanism;
- ✓ Explored the rule of rainfall infiltration and soil moisture movement through the real-time monitoring data under different conditions;
- ✓ Conducted the point scale experiment and tried to improve the hydrological model.

Studies on the Migration Law of Pollutant based on Hydrological Experiment **Nanjing, China**

Researcher, Supervised by Prof. Jianqun Wang **12/2012-03/2015**

- ✓ Explored the spatial distribution and migration law of nitrogen and phosphorus; effective measurements for prevention;
- ✓ Constructed the digital river basin using the images taken by satellite.

Deep learning study by myself:

Write an Algorithm for a Dog Identification APP

- ✓ Creat a CNN to Classify Dog Breeds from Scratch;
- ✓ Creat a CNN to Classify Dog Breeds using Transfer Learning.

Face Generation

- ✓ Pre-processing of CelebA dataset;
- ✓ Train a generator network to generate new images of faces that look as realistic as possible.

TV Script Generation

- ✓ Implement pre-processing function of lookup table and tokenize punctuation;
- ✓ Creat RNN to generate a new, 'fake' TV Script, based on patterns it recognizes in training data.

AWARDS

- The First Prize Scholarship, 1st Class, honored by Hohai University 2009-2011
- The First Prize Scholarship, honored by Jinan University 2013
- The Jiahong Weiye Scholarship 2010
- Excellent Student Cadre, honored by Jinan University 2009-2012
- Outstanding Graduate, honored by Education Dept. of Shandong Province, China. 2012
- Excellent Student Cadre, honored by Education Dept. of Shandong Province, China. 2010
- Excellent Youth Volunteer for World Water Day 2009&2010