Gong Wenwu

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# PEERSONAL SUMMARY

**Tensor-based Spatial-temporal Data Modeling, Machine Learning,** Risk Analysis Participated in many projects, Proficiency in multiple programming languages

# EDUCATION

**Southern University of Science and Technology : P.H.D. Candidate** Statistic and Data Mining

Sep 2020 - Present

related courses: High-dimensional data analysis, functional data analysis, categorical data analysis, statistic deep learning

**Harbin Institute of Technology : Master** *Probability and Statistics* Sep 2018 - Jul 2020

related courses: Probability theory and mathematical statistics, advanced statistics, generalized linear models, Bayesian statistics, modern probability theory, mathematical finance basis, stochastic analysis

**NanChang University: *Bachelor*** *Applied Mathematics*

Sep 2014 - Jul 2018

related courses: Probability theory and mathematical statistics, econometrics, mathematical analysis, economics, stochastic process

# HONORS & AWARDS

One patent application as the second author Sep 2021 - Present

National Postgraduate Statistical Modeling Competition (second prize)

South university of science and technology competitive scholarship (first class)

First-class and second-class scholarship of nanchang university, third prize in mathematics contest, third prize in modeling contest

# RESEARCH INTERESTS

Tensor-based Spatial-temporal Data, Intelligent transportation Big data analysis, Machine Learning

Risk Analysis and Modeling, Emergency management

# RESEARCH EXPERIENCE

National Key R&D Program [**Participate**]

Innovative practice project in SUSTech [**Principal Investigator**] National Natural Science Foundation of China [**Master's thesis topic**] Peacock project [**Participate** in the research project application process]

## PUBLICATIONS and PRESENTATION

Sep 2020 - Jul 2021

Sep 2018 - Jul 2020

Sep 2014 - Jul 2018

### *Sep 2020 - Dec 2021*

Jul 2020 - Dec 2020

### *Sep 2019 - Oct 2020*

*Sep 2019 - Oct 2019*

**Gong, W.** Manifold Regularized Tucker Decomposition: A Framework for Spatiotemporal Traffic Data Completion in Embedded Space. Manuscript for IEEE Transactions on Intelligent Transportation 2022

**Gong, W.**, Jiang, J., and Yang, L.: Dynamic Risk Assessment of Compound Hazards Based on VFS-IEM-IDM: A Case Study of Typhoon-Rainstorm Hazards in Shenzhen, China, Nat. Hazards Earth Syst. Sci. Discuss. [preprint] 2022

Proposed model, named Variable Fuzzy Set and Information Diffusion (VFS-IEM-IDM), to assess the dynamic risk of compound hazards

Meng F, **Gong W**, Liang J, Li X, Zeng Y, Yang L. (2021) Impact of different control policies for COVID-19 outbreak on the air transportation industry: A comparison between China, the U.S. and Singapore **Invited Talk**

Proposed hybrid SARIMA-based intervention model to measure the differences in the impacts of different control measures implemented in China, the U.S. and Singapore on Air Traffic during COVID-19

Huggins, T.J.; E, F.; Chen, K.; **Gong, W.**; Yang, L. (2020) Infrastructural Aspects of Rain-Related Cascading Disasters: A Systematic Literature Review

Literature review of rain-related cascading disasters, focusing on linkages between rain-related natural hazard triggers and infrastructural impacts

**Gong, W.**, Chen, K., Huggins, T. and Yang, L. (2020) Risk Evaluation Based on Variable Fuzzy Sets and Information Diffusion Method. Journal of Applied Mathematics and Physics **Invited Talk**

Proposed framework to assess the multi-hazards risk

Huggins, T. J., Chen, K., **Gong, W.**, and Yang, L. (2020) The razor in the waterfall: using longitudinal data to sharpen the analysis of cascading disaster risk, IOP Conference Series: Earth and Environmental Science

Threshold-based analysis of transitions between phases of a hydrologic flood-related cascade was performed using ten years of data from the USA state of Florida

## Others

Programming: Python, MATLAB, R, SAS

Languages: CET6 certification Activities: Football, badminton