Gong Wenwu

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PERSONAL 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) — Sep 2020 - Jul 2021
- South university of science and technology competitive scholarship (first class) — Sep 2018 - Jul 2020
- First-class and second-class scholarship of nanchang university, third prize in mathematics contest, third prize in modeling contest — Sep 2014 - Jul 2018

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**] — *Sep 2020 - Dec 2021*
- Innovative practice project in SUSTech [**Principal Investigator**] — Jul 2020 - Dec 2020
- National Natural Science Foundation of China [**Master's thesis topic**] — *Sep 2019 - Oct 2020*
- Peacock project [**Participate** in the research project application process] — *Sep 2019 - Oct 2019*

PUBLICATIONS and PRESENTATION

- **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