Chengxin Gong

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EDUCATION

- **Peking University**   Beijing, China
  Department of Probability and Statistics, School of Mathematical Sciences   Sept. 2019 - present

COURSES

- **Grades**: GPA: 3.**/4.00, ranking: **/211
- **Average scores of professional basic courses**: 9*.**/100
- **Average scores of professional advanced courses**: 9*.**/100
- **Courses for postgraduates**: Statistical Models and Computing Methods, Statistical Learning, Applied Partial Differential Equations, Computational Systems Biology (in process), Bayesian Theory and Computation (in process)
- **Seminars**: Bayesian Theory and Computation, Machine Learning and Causal Inference (in process)

PROJECTS

- 1. Model Selection for Mixture of Gaussian Process Functional Regressions (mix-GPFR).
  Gong, C., Wang, Z.
  Team Project for *Statistical Models and Computing Methods*, 2021

- 2. An Analysis of Representation Learning.
  Ai, R., Chen, H., **Gong, C.**, Shao, K.
  Team Project for *Statistical Learning*, 2021

- 3. A Comparative Study on Electrophysiological Models of Single Neurons.
  Gong, C., Wang, Z., Wang, S., Hu, B.
  Team Project for *Mathematical Models*, 2021

RESEARCH INTERESTS

- **Statistical Learning, Bayesian Statistics**: Apply Bayesian theory to machine learning, conduct data mining and predict the unknown data.
- **Computational Learning Theory, Interpretability**: Obtain generalization bounds for machine learning models, and theoretically interpret the feasibility and robustness for algorithms.

RESEARCH EXPERIENCES

- **Automatic Model Selection for A Two-Layer Mixture Model of Gaussian Process Functional Regressions (GPFR)**: Currently, I am conducting a research supervised by Dr. Jinwen Ma of Peking University, which focuses on building a two-layer, fully connected mixture model of GPFR for unsupervised learning, high-dimensional statistics and pattern recognition, designing the corresponding algorithm(s) for automatic model selection and applying the model to some realistic problems, such as clustering analysis and data prediction. We hope the model with the algorithm can fit and cluster the unlabelled time series simultaneously, detect the patterns and predict the possible events for a brand new data set with massive missing sample points.

HONORS AND REWARDS

- **Merit Student**, 2021

- **Panasonic Scholarship**, 2021

- **Award for Academic Excellents**, 2020

- **The Third Prize of Peking University Scholarship**, 2020

- **The First Prize in the 12th Mathematics Competition of Chinese College Students**, 2020

- **The Second Prize in the 37th Physics Competition of Chinese College Students**, 2020

- **The Third Prize of Peking University Challenge Cup**, 2021

SKILLS

- **Programming Languages**: Python, Matlab, C/C++

- **Languages**: Chinese, English

- **Social Positions**: The 13th president of PKU Association of Railway Culture Enthusiasts (July 2021 - present)