HUEI-YUAN YAO

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EDUCATION

National Chengchi University *Sep 2020 – Aug 2022*
M.S., Statistics GPA: 4.27/4.30
Thesis: Granger Causality Test Based on Non-pivotal Statistics
National Taiwan University *Sep 2016 – Jun 2020*
B.S., Mathematics GPA: 3.43/4.30

WORKING PAPERS

1. H.Y. Yao; Y.C. Hung*; W.B. Wu, Non-pivotal Granger Causality Tests, working paper.

RESEARCH EXPERIENCE

Research Assistant, National Chengchi University *Aug 2020 – Jul 2022*
Department of Statistics
Advisor: Ying-Chao Hung

- Validated a new Granger causality test (suggested by Prof. Wei-Biao Wu, University of Chicago) by comparing it with two classic Wald-type tests and gave some technical proof in the work

Research Assistant, Chang Gung University *Jan 2022 – Aug 2022*
Department of Public Health and Parasitology
Advisor: Min-chi Chen

- Assisted in building a Machine Learning pipeline from data processing to predictions making upon specific medical data based on R

CONFERENCE TALKS

Data Science, Statistics & Visualisation (DSSV 2022) *Jun 2022*
Alternative Granger Causality Tests Based on Vector Autoregressive Model **[abstract]**

TEACHING EXPERIENCE

Teaching Assistant, National Chengchi University

- Multivariate Analysis *Feb 2022 – Jun 2022*
- Mathematical Statistics *Sep 2021 – Jun 2022*
- Linear Algebra *Sep 2020 – Jun 2021*

Teaching Assistant, National Taiwan University

- Calculus (general Mathematics) (b) *Sep 2019 – Jun 2020*

TECHNICAL SKILLS

Proficient R, Python, LaTeX
Intermediate SAS, SQL, Matlab, C

PROJECTS

Machine Learning Methods on KITTI Object Detection Data

- Implemented and compared machine learning methods (HOG+SVM) with deep learning model (Yolo V3 tiny) on the object detection task
- Implemented Selective Search Based Segmentation for object recognition (an unsupervised learning task)

Multi-armed Bandits Simulation

- Investigated and simulated three strategies (ϵ-greedy, UCB policy and Thompson sampling) for the stochastic multi-armed bandit problem

Comparison of K-means Clustering Algorithms

- Implemented and compared two approximation algorithms (Kmeans++ and Local search algorithm) for k-means problem (a NP-hard optimization problem)

HONORS/AWARDS

Member of the Phi Tau Phi Scholastic Honor Society of the Republic of China

EXTRACURRICULAR ACTIVITIES

Baseball team for Changhua area alumni association, National Taiwan University
Volunteer for Native Villages of Changhua, National Taiwan University
Volunteer for summer vacation in Japan, Fo Guang Shan

RELEVANT COURSES

National Chengchi University

- Mathematical Statitistics (I), (II) (ph.D course)
- Real Analysis (I), (II)
- Nonparametric Function Estimation
- Multivariate Analysis
- Advanced Algorithm
- Experimental Design
- Statistical Computing and Simulation
- Categorical Data Analysis
- Applied Regression Analysis
- Sampling Method

National Taiwan University

- Advanced Statistical Inference (I), (II)
- Causal Inference
- Econometrics (I)
- Functional Analysis
- Stochastic Calculus
- Introduction to Statistics
- Introduction to Stochastic Processes
- Introduction to Probability Theory
- Introduction to Mathematical Analysis(I), (II)