Chun-Yuan (Tony) Huang

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RESEARCH INTERESTS

Methodology: high-dimensional statistics, dynamical system, Bayesian statistics
Applications: human genetics, public health, cognitive psychology

EDUCATION

The University of Texas at Dallas, TX   May 2023
Master of Science, Statistics
Concentration: Data Science

National Cheng Kung University, Tainan, Taiwan   May 2018
Bachelor of Science, Statistics
Minor: Political Science

PUBLICATIONS

Ahmad Z., Xing C., Khera A., **Huang C.Y.**, Brandt E.J., MacDougall D.E., Ahmed C.D., McGowan M.P., Wilemon K.A., Myers K.D. (2022+). *Using Healthcare Claims Data and Machine Learning to Identify Health Disparities for Individuals with Diagnosed and Undiagnosed Familial Hypercholesterolemia.* Under review in Journal of the American Heart Association.

Huang C.Y., Yang C.T., and Fific M. (2018). *System Factorial Technology Provides New Insights on Hybrid Search.* In poster presented at 59th Psychonomic Society Annual Meeting.

CURRENT PROJECT

Network and Changepoint Estimation on Single-Cell RNA Sequencing (scRNA-seq) Pseudotime Trajectories.

RESEARCH EXPERIENCE

McDermott Bioinformatics Lab   Dec. 2021-Present
The University of Texas Southwestern Medical Center (UTSW), USA
Advisor: Dr. Chao Xing

- Performed projects in genomics and public health as a collaborator and research on dynamical network inference for scRNA-seq as the lead researcher.
- Contributed to the project by performing statistical consulting, data wrangling in R and modeling using logistic regression to identify health disparities with medical professionals in UTSW.
- Developed a time-varying graphical LASSO framework to perform network estimation based on inverse covariance; implemented parallel computing with C++ and R; assessed functions in a Linux bash environment.
- Provided statistics and high-performance computing information support to the researchers in UTSW.

Visual Cognition and Modeling Lab   Sep. 2016 – June 2018
National Cheng Kung University, Taiwan
Advisor: Dr. Cheng-Ta Yang

- Performed research on human visual search in cognitive psychology as the lead researcher and first author.
- Designed and executed the hybrid search experiment using eye-tracking software (Eyelink); collected large eye movement datasets from 55 participants; preprocessed reaction time data using R.
- Implemented system factorial technology (SFT) and ANOVA to hybrid search reaction time data using R and MATLAB, analyzed the results, and wrote the hybrid search paper.
- Supported various lab duties including participant recruitment and scheduling and experiment assistance.

AWARDS

2018 59th Psychonomic Society Graduate Conference Award (10% acceptance rate) – \$1,000
2017 National Science Council of Taiwan Undergraduate Student Thesis Award – \$1,000

INDUSTRY EXPERIENCE	**Crédit Agricole CIB**, Taiwan Assistant Relationship Manager, Financial Institutions Coverage	Dec. 2018 – Dec. 2020

- Produced statistical exhibits and slides for Taiwanese financial industry and international bond market trends research; prepared pre-meeting briefing materials for C-level client meetings.

	GfK Retail and Technology Ltd., Taiwan Market Research Intern	Sep. Jan. 2018 – June 2018

- Responsible for reporting automation projects using R and VBA, decreasing data processing time by up to 25%.

ADDITIONAL INFORMATION
Technical: R, C++, Python, Bash, SAS, MATLAB, SQL, Data Visualization (Tableau, R shiny), Reporting (R Markdown, LaTeX).
Languages: Mandarin, English.