Chun-Yuan (Tony) Huang

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RESEARCH INTERESTS

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

EDUCATION

Southern Methodist University, TX — May 2023 – Present
Doctor of Philosophy, Biostatistics

The University of Texas at Dallas, TX — May 2023
Master of Science, Statistics

National Cheng Kung University, Tainan, Taiwan — May 2018
Bachelor of Science, Statistics

RESEARCH EXPERIENCE

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

- Perform projects in genomics and public health as a collaborator and research on dynamical network inference for scRNA-seq as the lead researcher.
- Contribute 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.
- Develop a time-varying graphical LASSO framework to perform network estimation based on inverse covariance; implement parallel computing with C++ and R; assess functions in a Linux bash environment.
- Provide 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.

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.* Circulation. 2022;146(Suppl_1): A12665. doi:10.1161/circ.146.suppl_1.12665

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

Statistical Inference Methods to Assess Replicability Success.

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

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 — Dec. 2018 – Dec. 2020
Assistant Relationship Manager, Financial Institutions Coverage

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

ADDITIONAL INFORMATION

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