Han Yuan

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EDUCATION & ACADEMIC EXPERIENCE

* Specialization: A series of related courses

Duke-NUS Medical School, Singapore — Aug. 2020 – Jul. 2024
Ph.D. Degree in Biostatistics and Health Data Science — Advisor: Dr. Nan Liu
University of Zurich, Zurich, Switzerland — Jan. – Jun. 2022
Research Scholar, Department of Quantitative Biomedicine — Advisor: Dr. Michael Krauthammer
Harvard University, Boston, United States — Jul. 2019 – Jan. 2020
Research Scholar, Departments of Epidemiology and Biostatistics — Advisor: Dr. Molin Wang
Nankai University, Tianjin, China — Sept. 2015 – Jun. 2019
Double B.S. Degrees in Bio-technology and Applied Mathematics — Ranking: 1st/79, GPA: 3.7/4.0

Data Science Math Skills (Cert. by Duke), Mathematics for Machine Learning* (Cert. by ICL), Machine Learning (Cert. by Duke), Python* (Cert. by UMich), PostgreSQL* (Cert. by UMich), Clinical Data Science* (Cert. by CU Anschutz), Clinical Decision Making using Deep Learning* (Cert. by UG)

PUBLICATIONS & SOFTWARE

* Equal contribution

Yuan, H., ... & Liu, N. (2022). AutoScore-Imbalance: An interpretable machine learning tool for development of clinical scores with rare events data. **Journal of Biomedical Informatics**.
Yuan, H., … & Wu, Y. (2022). An empirical study of the effect of background data size on the stability of SHapley Additive exPlanations (SHAP) for deep learning models. **arXiv** (Preprint).
Xie, F., Ning, Y., **Yuan, H.**, ... & Chakraborty, B. (2022). AutoScore-Survival: Developing interpretable machine learning-based time-to-event scores with right-censored survival data. **Journal of Biomedical Informatics**.
Xie, F.*, **Yuan, H.***, ... & Liu, N. (2021). Deep learning for temporal data representation in electronic health records: A systematic review of challenges and methodologies. **Journal of Biomedical Informatics**.
Miao, C., ... **Yuan, H.**, ... & Wang, Z. (2021). TRIM37 orchestrates renal cell carcinoma progression via histone H2A ubiquitination-dependent manner. **Journal of Experimental & Clinical Cancer Research**.
Xie, F., Ning, Y., **Yuan, H.**, ... & Liu, N. (2021). Package 'AutoScore': An Interpretable Machine Learning-Based Automatic Clinical Score Generator. **R Package**. Documentation.
Zhao, Y.*, **Yuan, H.*** & Wu, Y. (2021). Prediction of Adverse Drug Reaction using Machine Learning and Deep Learning Based on an Imbalanced Electronic Medical Records Dataset. **International Conference on Medical and Health Informatics**.
Zhang, J. J., Sun, Z., **Yuan, H.**, & Wang, M. (2020). Alternatives to the Kaplan-Meier estimator of progression-free survival. **The International Journal of Biostatistics**.
Miao, C.*, Yu, A.*, **Yuan, H.***, ... & Wang, Z. (2020). Effect of Enhanced Recovery After Surgery on Postoperative Recovery and Quality of Life in Patients Undergoing Laparoscopic Partial Nephrectomy. **Frontiers in Oncology**.

HONORS & AWARDS

The Runner-up of the 7th Annual Ph.D. Student Research Symposium, Duke-NUS Medical School — 2022
Khoo Pre-Doctoral Fellowship, Duke-NUS Medical School — 2020 & 2021 & 2022 & 2023
Merit Graduates (Top 5% Graduates), Nankai University — 2019
The Third Prize of Undergraduate Scientific Research (Top 20% Groups), Tianjin Municipal Education Commission — 2018
The First Prize of Excellent Undergraduate Scholarship (Top 5% Students), Nankai University — 2016 & 2017
Merit Student (Top 10% Students), Nankai University — 2016

EXTRACURRICULAR ACTIVITIES

Data Analyst Intern, Comprehensive Cancer Center Zurich, **University Hospital Zurich** — Jan. – Jun. 2022
- Developed several multi-modality models to facilitate medical diagnoses

Data Analyst Intern, Channing Division of Network Medicine, **Brigham Health** — Aug. – Dec. 2019
- Compared and selected statistical models on different projects (mainly longitudinal datasets)
- Debugged algorithm and simplified time and space complexity of algorithm's code on R

Data Analyst Intern, Division of Macroeconomic Research, **Founder Securities** — Aug. – Sept. 2017
- Conducted macro-economy and industry analysis by using R and Excel with records from Bloomberg and the National Bureau of Statistics of several different countries like the US Census Bureau
- Finished 5+ drafts of macroeconomic research reports and 10+ industrial data reviews

President, Econ-China Association, **Nankai University** — Sept. 2016 – Jun. 2017

- Organized 15+ seminars on economics and invited 10+ professors, attracting 80% of club members
- Maintained interactions with alumni and companies like CICC to find internships for club members

Teaching Volunteer, **Tianjin Yongji Primary School** Sept. 2015 – Jan. 2016

- Weekly guided 40+ pupils about math knowledge