

Haoyang Zhang

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Employment

- 2023.11-now **Post-doctoral researcher, Lund University**
- Department of Experimental Medical Science
 - Research topic: AI-Based Predictors Development for Variant Interpretation
 - Advisor: Mauno Vihinen
- 2022.12-2023.10 **Research associate, Jiangnan University**
- Children's Hospital
 - Research topic: Server Development for Visualizing Genetic Relationships
- 2018.01-2018.05 **Research assistant, The University of Hong Kong**
- School of Biological Sciences
 - Research topic: Measuring Impact of Play & Grow on Health in Preschool Children
 - Advisor: Tanja Sobko
- 2017.06-2017.12 **Research assistant, The Chinese University of Hong Kong**
- JC School of Public Health and Primary Care
 - Research topic: Measuring Dynamic Molecular Determinants of Influenza Epidemics
 - Advisor: Maggie Haitian Wang

Education

- 2018.09-2022.06 **Doctor of Engineering in Bioinformatics, Sun Yat-sen University**
- School of Data and Computer Science
 - Research topic: GWAS-based Shared Genetics investigation Between T2D and Other traits
 - Advisor: Yuedong Yang, Huiying Zhao, Yuanhao Yang
- 2016.09-2017.06 **M.Sc. in Epidemiology & Biostatistics, The Chinese University of Hong Kong**
- JC School of Public Health and Primary Care
 - Research topic: Measuring Dynamic Molecular Determinants of Influenza Epidemics
 - Advisor: Maggie Haitian Wang
- 2010.09-2016.06 **Bachelor in Preventive Medicine, Sun Yat-sen University**

Language

- English (Fluent), Chinese (Native), Cantonese (Native)

Skill

- Programming languages: Python, R, Linux, Nextflow
- Genetic analysis: Variant interpretation, GWAS, and post-GWAS analysis, see my [\[analysis module\]](#)
- Website development: HTML, PHP, and Shiny server, see my [\[Homepage\]](#) and [\[MR catalog Server\]](#)
- Reproducibility tools: [\[GitHub\]](#) and [\[Docker\]](#)
- Machine Learning: Pytorch-based deep learning framework

Grant

Developing a Comprehensive Database for Investigating Genetic Relationships within Phenotypes. 2024.

- Funding agency: The Royal Physiographic Society in Lund.
- Amount: 80,000 SEK

Unveiling Networked Causality Landscape for Novel Causal Connections (KR2024-0123). 2024

- Funding agency: The Gyllenstierna Krapperup's Foundation.
- Amount: 20,000 SEK

Publication

Full publications [link](#)

1. Yang F[#], Hu M[#], Xu L[#], Yang J, Zheng X, Zhu L^{*}, Zhang L^{*}, **Zhang H^{*}**. Potential Alternative and Novel Biomarkers for Paediatric MAFLD: exploratory evidence from a Chinese cohort. *BMC Gastroenterology*. 2025. [\[code\]](#) (accepted)
2. **Zhang H**, Kabir M, Ahmed S, Vihinen M. There will always be variants of uncertain significance. Analysis of VUSs. *NAR Genomics and Bioinformatics*. 2024. [\[paper\]](#)
3. **Zhang H**, Lu Z, Yang F, Chen H, Zhang L, Zhao H, Chen Y. Symptom profiles and vaccination status for COVID-19 after the adjustment of the dynamic zero-COVID policy in China: an observational study. *Journal of Medical Virology*. 2023. [\[paper\]](#) [\[code\]](#)
4. **Zhang H**, Xiu X, Xue A, Yang Y, Yang Y, Zhao H. Mendelian randomization study reveals a population-specific putative causal effect of type 2 diabetes in risk of cataract. *International Journal of Epidemiology*. 2022. [\[paper\]](#) [\[code\]](#)
5. **Zhang H**, Xiu X, Yang Y, Yang Y, Zhao H. Identification of putative causal relationships between type 2 diabetes and blood-based biomarkers in East Asians by Mendelian randomization. *American Journal of Epidemiology*. 2022. [\[paper\]](#)
6. **Zhang H**, Wei J, Liu Z, Liu X, Chong Y, Lu Y, Zhao H, Yang Y. DGAT-onco: A differential analysis method to detect oncogenes by integrating functional information of mutations. *IEEE BIBM 2021* (conference in bioinformatics). [\[paper\]](#) [\[code\]](#)
7. **Zhang H**, Chen Y, Zhou L, Zheng L. Letter to the Editor: Is Omeprazole a contributing risk factor for osteoarthritis (OA)? *J Transl Med*. 2024. [\[letter\]](#)
8. Qi M, **Zhang H**, Xiu X, He D, Cooper D N, Yang Y, Zhao H. Genetic evidence for T-wave area from 12-lead electrocardiograms to monitor cardiovascular diseases in patients taking diabetes medications. *Human Genetics*. 2024. [\[paper\]](#)
9. Lu Z, **Zhang H**, Yang Y, Zhao H. Sex differences of the shared genetic landscapes between type 2 diabetes and peripheral artery disease in East Asians and Europeans. *Human Genetics*. 2023. [\[paper\]](#)
10. Lin S, **Zhang H**, Qi M, Cooper D N, Yang Y, Yang Y, Zhao H. Inferring the genetic relationship between brain imaging-derived phenotypes and risk of complex diseases by Mendelian randomization and genome-wide colocalization. *Neuroimage*. 2023 [\[paper\]](#)
11. Chen H, **Zhang H**, Wen S, Xiu X, You D, Zhao H, Wang D, Yang Y, Shu Y. Mendelian randomization suggests a potential causal effect of eosinophil count on influenza vaccination responsiveness. *J Med Virol*. 2023. [\[paper\]](#)
12. Xiu X[#], **Zhang H[#]**, Xue A, Cooper DN, Yan L, Yang Y, Yang Y, Zhao H. A causal relationship between type 2 diabetes and peripheral artery disease is evident in both Europeans and East Asians. *BMC Medicine*. 2022. [\[paper\]](#)
13. Wang X, **Zhang H**, Xiu X, Qi M, Yang Y, Zhao H. Genetic and phenotypic relationships between coronary atherosclerotic heart disease and electrocardiographic traits. *IEEE BIBM*. 2022. [\[paper\]](#)
14. Zhao M, **Zhang H**, Waters T H B, Chung J P W, Li T C, Chan D Y L. The effects of daily meteorological perturbation on pregnancy outcome: follow-up of a cohort of young women undergoing IVF treatment. *Environmental Health*. 2019. [\[paper\]](#)
15. Lu Z, **Zhang H**, Luoto S, Ren X. Gluten-free living in China: The characteristics, food choices and difficulties in following a gluten-free diet - An online survey. *Appetite*. 2018. [\[paper\]](#)
16. Huang J, **Zhang H**, Liu S, Wang M, Wan B, Velani B, Zhu Y, Lin S. Is *Toxoplasma gondii* infection correlated with nonalcoholic fatty liver disease? - a population-based study. *BMC Infect Dis*. 2018. [\[paper\]](#)
17. Zhang Z, **Zhang H**, Khanal M K. Development of scoring system for risk stratification in clinical medicine: a step-by-step tutorial. *Annals of Translational Medicine*. 2017. [\[paper\]](#)

Software and server

- [rsidmap](#): rapid mapping genomic positions to rsid.
- [DGAT-onco](#): detecting oncogene by comparing mutational profile.
- [MR-catalog](#): a server to visualize trait-to-trait causal relationships with Mendelian Randomization.