



## **N. Jonathan Zhang**

Consultant, Advanced Internal Medicine, Woodlands Hospital,  
NHG Health

Adjunct Lecturer, Lee Kong Chian School of Medicine

Research and Innovation Interests :

- Acute Medicine
- Clinical Risk Prediction
- Machine Learning / AI
- Electronic Health Records
- Diagnostic Heuristics

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### **Biography**

Moving to the United States from China at age ten, Dr. N. Jonathan Zhang was introduced to a new world of ideas shaped by the U.S. culture of exploration, inquiry, and critical analysis. With an early passion for science, he pursued Biochemistry and Molecular Biology at Boston University, graduating **summa cum laude** in 2007. Drawn to the human dimension of medicine, he went on to earn his M.D. from the Columbia University College of Physicians and Surgeons in 2012.

Internal Medicine—spanning the breadth of human physiology and demanding rigorous diagnostic reasoning—proved a natural fit for his inquisitive nature. He completed his residency at The Mount Sinai Hospital in New York City in 2015 and subsequently gained six years of clinical and research experience as a teaching hospitalist in New York tertiary care, with a focus on quality improvement and technology-augmented diagnosis.

For family reasons, Dr. Zhang relocated to Singapore and joined Woodlands Health in 2021. His current research interests include acute medicine, AI-driven clinical risk prediction, and clinical informatics. He remains deeply engaged in advancing diagnostic reasoning, heuristics, and the thoughtful integration of technology into medical practice.

### **Selected Publications**

- Afshin-Pour B, Qiu M, Hosseini Vajargah S, Cheyne H, Ha K, Stewart M, Horsky J, Aviv R, Zhang N, Narasimhan M, Chelico J, Musso G, Hajizadeh N. Discriminating Acute Respiratory Distress

Syndrome from other forms of respiratory failure via iterative machine learning. *Intell Based Med.* 2023;7:100087. [pmc.ncbi.nlm.nih.gov/articles/36624822/](https://pubmed.ncbi.nlm.nih.gov/articles/36624822/)

- Zhang NJ, Rameau P, Julemis M, Liu Y, Solomon J, Khan S, McGinn T, Richardson S. Automated Pulmonary Embolism Risk Assessment Using the Wells Criteria: Validation Study. *JMIR Form Res.* 2022 Feb 28;6(2):e32230. [pmc.ncbi.nlm.nih.gov/articles/35225812/](https://pubmed.ncbi.nlm.nih.gov/articles/35225812/)
- Zhang NJ, Sinvani L, Leung TM, Qiu M, Meyer CL, Sharma A, Kurian LM, Bank MA, Kast CL. A Geriatrics-Focused Hospitalist Trauma Comanagement Program Improves Quality of Care for Older Adults. *Am J Med Qual.* 2022 May-Jun 01;37(3):214-220. <https://doi.org/10.1097/JMQ.000000000000018>
- Obi CA, Thompson E, Mordukhaev L, Khan I, Zhang NJ. Anti-N-methyl-d-aspartate receptor encephalitis triggered by emotional stress. *Proc (Bayl Univ Med Cent).* 2019 Aug 19;32(4):605-606. [pmc.ncbi.nlm.nih.gov/articles/31656437/](https://pubmed.ncbi.nlm.nih.gov/articles/31656437/)
- Roper N, Zhang N, Korenstein D. Industry collaboration and randomized clinical trial design and outcomes. *JAMA Intern Med.* 2014 Oct;174(10):1695-6. <https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/1898873>
- Moran AE, Oliver JT, Mirzaie M, Forouzanfar MH, Chilov M, Anderson L, Morrison JL, Khan A, Zhang N, Haynes N, Tran J, Murphy A, Degennaro V, Roth G, Zhao D, Peer N, Pichon-Riviere A, Rubinstein A, Pogosova N, Prabhakaran D, Naghavi M, Ezzati M, Mensah GA. Assessing the Global Burden of Ischemic Heart Disease: Part 1: Methods for a Systematic Review of the Global Epidemiology of Ischemic Heart Disease in 1990 and 2010. *Glob Heart.* 2012 Dec 1;7(4):315-329. [pmc.ncbi.nlm.nih.gov/articles/23682350/](https://pubmed.ncbi.nlm.nih.gov/articles/23682350/)
- Chin M, Herscovitch M, Zhang N, Waxman DJ, Gilmore TD. Overexpression of an activated REL mutant enhances the transformed state of the human B-lymphoma BJAB cell line and alters its gene expression profile. *Oncogene.* 2009 May 21;28(20):2100-11. [pmc.ncbi.nlm.nih.gov/articles/19377508/](https://pubmed.ncbi.nlm.nih.gov/articles/19377508/)

#### Notable Research and Innovation Awards & Grants from Past 5 Years

Name of Awards & Grants	Year Obtained
NHG Health CMTi Clinical Innovator Preparatory Programme (CiPP)	2025