Position Title: Postdoctoral Research Scientist in Statistics/Biomedical Data Science

Summary: The research group led by Dr. Zihuai He (https://profiles.stanford.edu/zihuai-he; https://www.zihuai-he.com/) at Stanford University is recruiting postdoctoral scholars with prior training in statistics, biostatistics, computer science, bioinformatics or a closely related area. Applications are invited from ambitious, independent, and motivated candidates with a strong publication record.

Dr. He's group at Stanford Quantitative Sciences Unit develops data-driven methodologies for the identification and interpretation of features that contribute to the risk of or protection against the development of Alzheimer's disease (AD) and Alzheimer's disease related dementias (ADRD) via integrative analysis of a variety of genetic, genomic, proteomic and other biomarker data. The research group actively collaborates with the Stanford Data Science Institute, the Stanford Institute for Human-Centered Artificial Intelligence, and the Stanford Alzheimer's Disease Research Center. Recent relevant publications include:

He, Z. et al. (2021). Identification of putative causal loci in whole-genome sequencing data via knockoff statistics. *Nature Communications*, 12(1), pp.1-18.

He, Z. et al.. (2021). Genome-wide analysis of common and rare variants via multiple knockoffs at biobank scale, with an application to Alzheimer disease genetics. *The American Journal of Human Genetics*, 108(12), pp.2336-2353.

Kassani, P.H., …, and He, Z. (2022). Deep neural networks with controlled variable selection for the identification of putative causal genetic variants. *Nature Machine Intelligence*. Minor Revision.

The postdoctoral scholars will be part of an initiative to establish a research center at Stanford that focuses on the use of artificial intelligence/machine learning to discover causal genetic variants of AD that could lead to novel targets for the development of new AD therapies. They will work on three core research topics: 1) statistical inference in high-dimensional and large-scale testing problems; 2) incorporating rigorous feature selection into explainable deep learning methods; 3) translating data-driven discoveries into mechanistic insights and drug targets. They will also be encouraged to develop and pursue their own lines of inquiry.

Required Qualifications:

- Completed (or nearly completed) a PhD in Statistics, Biostatistics, Computer Science, Bioinformatics, or a closely related area prior to their appointment.
- Strong programming skills (R, Python, C++ etc.).
- Excellent written and oral communication skills.

Required Application Materials:

1. Cover letter describing your interest in applying to the lab.
2. Curriculum vitae.
3. Contact information for 3 professional references.
4. Your most recent or relevant publications.

Please email application to Dr. Zihuai He (zihuai@stanford.edu). Applications will be reviewed immediately after submission.