Icahn School of Medicine at Mount Sinai *Cardiovascular Research Institute*

Icahn School of Medicine at Mount Sinai *Institute for Genomic Health*

Icahn School of Medicine at Mount Sinai *Center for Inherited Cardiovascular Diseases*

Postdoctoral Research Fellowship Biomedical Data Science

The Kontorovich Laboratory, Cardiovascular Research Institute and Center for Inherited Cardiovascular Diseases

Icahn School of Medicine at Mount Sinai

We are inviting applications for a Postdoctoral Research Fellowship position in biomedical data science with a specific interest in applications to electronic health records (EHRs), genomics and cardiovascular diseases. The postdoctoral fellow will be mentored by Dr. Amy Kontorovich, Associate Professor of Medicine in Cardiology and Genomic Medicine, Cardiovascular Research Institute (CVRI) at the Icahn School of Medicine at Mount Sinai in Manhattan, New York, NY, USA. The Kontorovich Laboratory is a translational group with diverse but interlinked research interests related to genetic and genomic associations with a range of cardiovascular diseases. This Postdoctoral Research Fellowship position will focus primarily on using biomedical data science and machine learning methodologies to explore cardiovascular disease phenotypes in the Mount Sinai Bio*Me* Biobank. The Postdoctoral Research Fellow will receive additional mentorship from Dr. Vikas Pejaver (Assistant Professor, Institute for Genomic Health at Mount Sinai), who has expertise in the extraction of genetic disease-related information from EHRs and its integration with genomic, molecular and other clinical data.

This position is funded through a five-year grant from the National Institutes of Health with additional support available to potentially extend in the longer term. The Postdoctoral Fellow will be supported to develop their own research program at the intersection of cardiovascular genetics and data science. There may be additional opportunities to work on curiosity-driven projects, such as internally-funded and structured, grant-funded projects. Data resources include (a) Access to >8 million patient records in the Mount Sinai Data Warehouse and (b) The BioMe Biobank Program with >30,000 patients with whole exome sequencing data linked to longitudinal clinical data. Mount Sinai also houses Minerva, a world-class high-performance computing resource, with specifications that include over 2 petaflops of compute cores and nearly 90 GPU cores, among others.

Candidate requirements include:

- PhD or MD-PhD in Biomedical Informatics, Biomedical Data Science, Clinical Research Informatics, or a related discipline
- Working knowledge of statistical testing and data exploration techniques
- Experience working in high-performance computing environments
- Experience in working with genomic and/or health record data sets

Desired qualifications include:

- Familiarity with standardized vocabularies and ontologies such as UMLS and HPO
- Working knowledge of machine learning algorithms and their implementation
- Working knowledge of natural language processing techniques including transformers and foundational models
- Working knowledge of modern web service and/or software implementation
- Familiarity with HIPAA and data governance in large healthcare systems

All candidates must have strong communication skills, a commitment to methodological rigor, and the ability to work creatively and collaboratively. Please send inquiries to amy.kontorovich@mountsinai.org with “Postdoc position” in the subject and the following materials:

- A complete CV
- A cover letter describing how your training and expertise relate to our research interests
- Contact information for at least 2 references

Information on the Postdoctoral Training Program at Mount Sinai: http://icahn.mssm.edu/education/postdoctoral-training. To learn more about the Icahn School of Medicine at Mount Sinai: http://icahn.mssm.edu.Incoming postdoctoral fellows are eligible for affordable Mount Sinai Housing within walking distance of the medical school and of a wide range of amenities as well as visa sponsorship on a case-by-case basis.

About Our Organization: The Icahn School of Medicine at Mount Sinai is internationally recognized as a leader in groundbreaking clinical and basic science research and is known for its innovative approach to medical education. With a faculty of more than 3,400 in 38 clinical and basic science departments and centers, Mount Sinai ranks among the top 20 medical schools in receipt of National Institutes of Health grants. In its 2015 "America’s Best Graduate Schools" issue, U.S. News & World Report ranks the Icahn School of Medicine 14th out of 130 medical schools nationwide. Mount Sinai Medical Center is an equal opportunity/affirmative action employer. We recognize the power and importance of a diverse employee population and strongly encourage applicants with various experiences and backgrounds. Mount Sinai Medical Center--An EEO/AA-D/V Employer.

Keywords: Genomics, Genetics, DNA, Artificial Intelligence, Electronic Health Records, Electronic Medical Records, Common Data Models, Predictive modeling, Deep Learning, Machine Learning, Data Science, Generative Modeling, Natural Language Processing, R, Python, Precision Medicine, Personalized Medicine.