

Postdoctoral Researcher – Ensari Lab
Windreich Department of AI & Human Health
Icahn School of Medicine at Mount Sinai

Job Description

The Windreich Department of Artificial Intelligence and Human Health within the Icahn School of Medicine at Mount Sinai is searching for a postdoctoral research scientist to join Dr. Ensari's research laboratory. Our group conducts research in the intersection of biomedical informatics, artificial intelligence, and women's health, toward developing and implementing machine learning models to patient-generated health data. The lab is currently focusing on 3 main research projects:

- Implement functional data methods and distributed lag models on patient-generated health data to design and evaluate patient-reported outcome measures for chronic symptoms (e.g., pain, quality of life) in a mHealth setting
- Leverage data from electronic health records (EHRs) and self-tracked mobile data from mHealth Apps to elucidate phenotypes and endotypes within women's reproductive disorders and other heterogeneous diseases
- Design and evaluate tailored, mHealth-based behavioral strategies for chronic symptom self-management using data from wearables, trackers, and self-tracking Apps

We are looking to hire a postdoctoral research scientist who focus on one of the following methods related to these projects: Functional data analysis and distributed lag models (Project 1), Natural language processing (NLP)-based models (Project 2), Applied Reinforcement Learning methods (Project 3).

For Project 1, the postdoctoral researcher will primarily work on implementation of functional data methods and distributed lag models on patient-generated and clinical data in a novel mHealth setting. This is a NIH grant-funded project in collaboration with a team of investigators from Columbia University and clinicians in NYC. The research is conducted with patients with chronic pelvic pain disorders and is expected to take place over the next 4 years.

For Project 2, the postdoctoral researcher will focus on natural language processing (NLP)-based methods to: (1) develop computational methods for analysis and extraction of information from clinical (and unstructured) texts and imaging; (2) develop clinical prediction models using multi-modal and longitudinal EHRs. The ultimate goal is to deploy and evaluate these methods as clinical applications within the hospital EHR system.

For Project 3, the postdoctoral researcher will work on a study implementing reinforcement learning approaches to facilitate patient decision-making using mHealth data from various sources (e.g., self-tracked, passively collected).

The postdoctoral researcher will be mentored by Dr. Ensari and collaborate with other investigators within and outside the department. In addition to focusing on one of the project, the postdoctoral researcher will have the opportunity, if interested, to help on other ongoing research

in the lab, clinical research coordination, supervise graduate students, and pursue new research ideas.

This position offers:

- Work in an interdisciplinary and international team of faculty, students, post-docs and applied researchers.
- Flexible working hours, self-determined organization,
- Develop skills based on interest and professional goals on a variety of aspects of conducting research through versatile tasks

Duties And Responsibilities

- Conduct research in at least ONE of the focus areas listed above (depending area of focus/expertise of the applicant)
- Formulate high-quality research ideas and directions in collaboration with other collaborators on the team
- Develop and perform statistical analyses from investigational protocols, post-hoc projects, and registry databases. define cohort criteria
- Prepare manuscripts, abstracts, and presentations for scientific meetings
- Communicate research progress, challenges and achievements, and engage within and beyond the group on new potential collaborations
- Lead and collaborate on preparation of external (e.g., federal) and internal grant applications
- Supervision of graduate students (optional)
- Project coordination (optional)

To Apply:

- **Please include a cover letter and CV as a single PDF in your application**
- **Please specify in your application which project/focus area you are applying for or interested in primarily working on**
- **Please send inquiries/questions about the position or application to ipek.ensari@mssm.edu**

Education & Experience Requirements:

- Post-graduate degree (PhD or MD, completed or near completion) in computer science, engineering, biomedical data science, informatics, statistics, computational biology, or a related field
- Experience in at least one of the methods pertaining to any of the 3 projects described above: 1) functional data analytic methods and distributed lag models OR 2) NLP-based applications to EHR data, OR 3) Reinforcement Learning, demonstrated by peer-reviewed journal publications or conference proceedings
- Scholarly publication record including first-author publications and/or acquired grants/fellowships that demonstrates scientific writing and communication skills
- Outstanding communication and presentation skills with fluency in spoken and written English
- Extensive experience in R/RStudio or Python, and preparing sharable code with team members (e.g. using Python notebooks, github)

- Established record of distinguished scholarly achievement demonstrated by publications, conference proceedings, chapters, or other similar publications
- High level of independence and self-organization
- Interest in interdisciplinary research and women's health

Strength Through Diversity

The Mount Sinai Health System believes that diversity, equity, and inclusion are key drivers for excellence. We share a common devotion to delivering exceptional patient care. When you join us, you become a part of Mount Sinai's unrivaled record of achievement, education, and advancement as we revolutionize medicine together. We invite you to participate actively as a part of the Mount Sinai Health System team by:

- Using a lens of equity in all aspects of patient care delivery, education, and research to promote policies and practices to allow opportunities for all to thrive and reach their potential.
- Serving as a role model confronting racist, sexist, or other inappropriate actions by speaking up, challenging exclusionary organizational practices, and standing side-by-side in support of colleagues who experience discrimination.
- Inspiring and fostering an environment of anti-racist behaviors among and between departments and co-workers.

We work hard to acquire and retain the best people and to create an inclusive, welcoming and nurturing work environment where all feel they are valued, belong, and are able to professionally advance. We share the belief that all employees, regardless of job title or expertise, contribute to the patient experience and quality of patient care.

Explore more about this opportunity and how you can help us write a new chapter in our history!

Who We Are

Over 42,000 employees strong, the mission of the Mount Sinai Health System is to provide compassionate patient care with seamless coordination and to advance medicine through unrivaled education, research, and outreach in the many diverse communities we serve.

Formed in September 2013, The Mount Sinai Health System combines the excellence of the Icahn School of Medicine at Mount Sinai with seven premier hospitals, including Mount Sinai Beth Israel, Mount Sinai Brooklyn, The Mount Sinai Hospital, Mount Sinai Queens, Mount Sinai West (formerly Mount Sinai Roosevelt), Mount Sinai Morningside (formerly Mount Sinai St. Luke's), and New York Eye and Ear Infirmary of Mount Sinai.

The Mount Sinai Health System (MSHS) provides equal employment opportunity to all its employees and applicants for employment without unlawful discrimination on the basis of their actual or perceived race, creed, color, religion, national origin, sex, gender, gender expression, gender identity, age, disability, marital or parental status, sexual orientation, veteran, immigration, citizenship, or other protected status.

EOE including Veterans and Disabled

Compensation

The Mount Sinai Health System (MSHS) provides a salary range to comply with the New York City Law on Salary Transparency in Job Advertisements. The salary range for the role is \$58,661.00 - \$60,788.00 Annually. Actual salaries depend on a variety of factors, including experience, education, and hospital need. The salary range or contractual rate listed does not include bonuses/incentive, differential pay or other forms of compensation or benefits.