Postdoctoral Fellowship Opportunity

Center for Health Services & Outcomes Research (CHSOR)
Institute for Public Health and Medicine (IPHAM)
Northwestern University Feinberg School of Medicine

Overview of the Fellowship

The Center for Health Services & Outcomes Research (CHSOR) invites applications for a Postdoctoral Research Fellow to join an NIH-funded, interdisciplinary research program under Dr. Andrew Naidech focused on seizure prediction following intracranial hemorrhage. This fellowship provides advanced research training at the intersection of clinical neurology, health services research, and data science, with an emphasis on developing an independent research trajectory.

The fellow will contribute to a multi-modal project integrating electroencephalography (EEG), electronic health record (EHR) data, natural language processing (NLP), and advanced neuroimaging analytics (CT, MRI) using machine learning and deep learning methods. The overarching goal is to improve precision prediction and clinical decision-making for neurologically vulnerable patients.

This is a full-time, mentored postdoctoral position with an expected duration of at least two years, designed to support the fellow's transition to an independent research career in academia, industry, or government.

Training Environment

CHSOR is a highly collaborative research center within Institute for Public Health and Medicine at Northwestern University Feinberg School of Medicine. The fellow will work closely with senior investigators, clinician-scientists, statisticians, and trainees in a vibrant academic environment with strong institutional support for career development, publications, and grant writing.

The fellowship includes:

- Individualized mentorship from experienced NIH-funded investigators
- Opportunities for first- and co-authored publications
- Exposure to grant development and research leadership
- Collaboration across clinical, methodological, and computational disciplines

Research Focus & Fellowship Activities

Under faculty mentorship, the Postdoctoral Fellow will:

- Contribute to the conceptual design and execution of advanced research studies, including hypothesis generation and analytic planning
- Apply and further develop expertise in:
    - Statistical modeling (e.g., regression, longitudinal and clustered data analysis)
    - Analysis of EEG and neuroimaging data
    - Natural language processing of clinical text
    - Machine learning and deep learning approaches for clinical prediction
- Work with large-scale clinical and administrative datasets, including EHR-derived data
- Participate in data curation, validation, and quality assurance as part of reproducible research workflows
- Interpret findings in collaboration with clinical investigators and contribute to manuscripts, abstracts, and presentations
- Present research findings at lab meetings, institutional forums, and national conferences

Mentorship & Professional Development

The fellowship is intentionally structured to support:

- Development of an independent scientific identity
- Strengthening of methodological expertise in applied health data science
- Growth in scientific writing, peer review, and dissemination
- Collaborative research skills across disciplines

Fellows are encouraged to pursue complementary training opportunities across Northwestern and to engage in professional development activities aligned with their career goals.

Required Qualifications

- PhD or equivalent doctoral degree from an accredited institution in a relevant field (e.g., biostatistics, epidemiology, applied statistics, data science, neuroscience, biomedical engineering, or related discipline)
- Demonstrated research productivity (e.g., peer-reviewed publications, conference presentations)
- Strong interest in interdisciplinary, data-driven health research
- Ability to work collaboratively in a team-based academic environment

Preferred Qualifications

- Doctoral training in Biostatistics, Applied Statistics, Mathematics, Epidemiology, or a closely related field
- Experience working with clinical, administrative, EEG, or neuroimaging data
- Prior exposure to machine learning or deep learning methods in a research context

Technical Skills (Desired)

- Programming experience in Python, R, MATLAB, or similar languages
- Experience with multivariable statistical modeling and data visualization
- Familiarity with large-scale datasets and reproducible research practices
- Understanding of research compliance standards (e.g., HIPAA, IRB)

Application Instructions

Interested candidates should submit:

1. A curriculum vitae
2. A cover letter describing research interests, career goals, and relevant experience
3. Contact information for three professional references

For inquiries or to submit application materials, please contact:
Dr. Andrew Naidech at a-naidech@northwestern.edu

Northwestern University is an Equal Opportunity, Affirmative Action Employer of all protected classes, including veterans and individuals with disabilities. Women, racial and ethnic minorities, individuals with disabilities, and veterans are encouraged to apply. Hiring is contingent upon eligibility to work in the United States.