

Graduate Student Research Opportunities: Med- Center for Health Services and Outcomes Research

Job Summary:

We are recruiting a graduate student for a research project funded by the NIH. The overall aim is to precisely predict seizures in patients with intracranial (brain) hemorrhage using natural language processing, machine learning of data from electroencephalography (EEG), and deep learning of neuroimaging (e.g., computed tomography, magnetic resonance imaging).

Key aspects of relevant expertise include data management; development of analytic data files from multi-source administrative and clinical databases; statistical techniques such as regression, analysis of survey data for health-related quality of life, EEG data, electronic health record data, and imaging.

The successful candidate will be collaborative and have a good rapport with both seasoned faculty and investigators, as well as new research fellows.

The Center for Health Services & Outcomes Research (CHSOR) within the Institute for Public Health and Medicine (IPHAM) at Northwestern's Feinberg School of Medicine is a vibrant academic environment.

For questions and to send applicant information, please contact Dr. Andrew Naidech at andrew.naidech@nm.org.

Interested candidates should include their full CV, a cover letter briefly stating their career goals, specific research experience and areas of interest, and contact information of three references in their application.

Specific Responsibilities:

Strategic Planning

- Partners with clients to define requirements based on business objectives.

Administration

- Develop standardized templates, policies, and procedures for internal and external reporting.
- Designs and prepares documentation for qualitative and quantitative data analysis.
- Discuss findings with senior management.

Development

- Develop queries and quality metrics.
- Interprets results using a variety of techniques, ranging from simple data aggregation to more complex statistical analysis, machine learning, and deep learning.
- Manages complex databases.

Performance

- Completes data cleaning and organizes data files for analysis.
- Reviews data and identifies quality issues.
- Presents findings in an appropriate manner.

Miscellaneous

- Performs other duties as assigned.

Minimum Qualifications:

- Successful completion of a full 4-year course of study in an accredited college or university leading to a bachelor's or higher degree; good standing in an accredited Northwestern PhD-track.
- 2 years data analysis/report writing or similar experience required.
- Please see information highlighted below.
 - Infrastructure
 - Microsoft Office (Word, Excel, Powerpoint, Access, Outlook)
 - Programming Languages and Frameworks
 - Python, R, MATLAB, or similar.
 - Compliance
 - HIPAA
 - IRB
 - Analytical
 - Critical thinking
 - Data mining
 - Data modeling
 - Judgment
 - Troubleshooting
 - Project

- Code documentation
- Collaboration and teamwork
- Organizational skills

Minimum Competencies: (Skills, knowledge, and abilities.)

- 2 years programming/coding experience, applied experience in multivariable statistical modeling, 1 year applied experience in machine learning or deep learning

Preferred Qualifications:

- Master's Degree in Biostatistics, Applied Statistics, Math, Epidemiology, or related field strongly preferred

Preferred Competencies: (Skills, knowledge, and abilities)

- 4 years Python/R programming/coding experience, applied experience in large administrative and clinical datasets, longitudinal data analysis, clustered data, multivariable statistical modeling