The **Unit on Computational Decision Neuroscience (CDN)** at the **National Institute of Mental Health Intramural Research Program** is seeking a full-time Data Scientist/Data Analyst.

The lab is focused on understanding the neural and computational bases of adaptive and maladaptive decision-making and their relationship to mental health. Current studies investigate how internal states lead to biases in decision-making and how this exacerbated in mental health disorders. Our approach involves a combination of computational model-based tasks, questionnaires, biosensor data, fMRI, and intracranial recordings. The main models of interest come from neuroeconomics, reinforcement learning, Bayesian inference, signal detection, and information theory.

The main tasks for this position include but are not restricted to computational modeling of behavioral data from decision-making and other cognitive tasks, statistical analysis of task-based, clinical, physiological and neuroimaging data, as well as data visualization for the purposes of scientific presentations, public communication, and academic manuscripts. The candidate is expected to demonstrate experience with best practices for the development of well-documented, reproducible programming pipelines for data analysis, that facilitate sharing and collaboration, and live up to our open-science philosophy, as well as to our data management and sharing commitments at NIH.

No prior experience with psychiatry research is needed but a familiarity with the constructs and models of interest in the lab (value-based learning and decision-making, metacognition, belief updating, emotion regulation, and/or effort-cost estimation) is desirable, as these are universally important for understanding adaptive healthy functioning and psychiatric disease.

This is an exciting opportunity for a candidate with established programming and analytic skills to work at the cutting edge of psychiatry research and computational cognitive neuroscience.

Job Requirements

- Assisting with setting up and managing analysis pipelines
- Conducting advanced analysis of behavioral, physiological, and imaging data, including but not limited to computational modeling and machine learning
- Integrating complex datasets across multiple modalities, including fMRI, electrophysiology, biosensor data neuroendocrinology, behavior, and self-report
- Assisting in data visualization for manuscripts and presentation of results at scientific meetings
- Supporting/co-mentoring junior members of the lab on data analysis practices

Qualifications

The successful candidate will meet the following requirements, including:

- A PhD in neuroscience, cognitive science, psychology, computer science, data science, statistics, engineering, or a related field
- Strong programming skills (ideally in Python, and/or MATLAB, R)
- Experience working within Linux environment and cloud computing
- An ability to work well in multidisciplinary and highly collaborative teams
- An interest in translational research
- A track record or potential for scholarly productivity
- Effective independent problem-solving and task prioritization

Experience with any of the following is not required, but preferred:

- Computational modeling
- Dynamic analysis of longitudinal or time series data
- Machine learning

The data analyst will work under the supervision of Dr. Silvia Lopez-Guzman on projects that aim to understand (1) the process of adaptively evaluating options and committing to a choice; (2) how changes in internal and motivational states may abnormally shape decisions in individuals with and without psychopathology; and (3) how cognitive and metacognitive resources support these adaptive or maladaptive decision-making processes. The CDN lab leverages the rich clinical resources and computational expertise across the NIH, and collaborates actively with labs that specialize on addiction, depression, anxiety, and pain. The lab is an active part of a growing community of expert labs on learning and decision-making who work together to improve our understanding from the circuits and behavioral neuroscience level to the human cognitive and clinical levels, making this a unique opportunity for any scientist with an interest in decision science and computational psychiatry.

How to Apply

To apply, please send your CV and a cover letter to Dr. Silvia Lopez-Guzman (silvia.lopezguzman@nih.gov) with the subject "CDN Lab Data Analyst App". Inquiries about any aspect of the position are very welcome!