Research Associate
Tufts University

Job Title	Research Associate
Department	Center for Applied Brain and Cognitive Sciences
Institution	Tufts University
	Medford, Massachusetts
Date Posted	May 8, 2025
Application Deadline	Open until filled
Position Start Date	Available immediately
Job Categories	Post-Doc
Academic Field(s)	Psychology - General
	Cognitive science
Job Website	https://jobs.tufts.edu/jobs/21856?lang=en-us&iis=Job+Board&iisn=AcademicKeys
Apply By Email	
Job Description	

Overview

To support applied cognitive science research at the Center for Applied Brain and Cognitive Sciences. Specifically, a lead investigator is needed to support the lab's data analysis and quantitative modeling efforts using both Bayesian and frequentist approaches to examine behavioral, cognitive, and physiological data. This includes the application of multilevel modeling, structural equation modeling, psychometric analysis, meta-analysis, and data visualization, as well as mentoring junior researchers in statistical methodology and rigorous best practices for data analytic techniques\

What You'll Do

Essential Functions

- Independently conduct data-driven research in support of CABCS objectives, particularly in cognitive and applied psychology domains
- Conduct studies which involve cognitive and physiological modalities, analyze data, write papers/reports, and design presentations
- Provide statistical expertise across ongoing research projects and serve as a resource for applying frequentist and Bayesian methods, including data analysis, diagnostics, model validation, and interpretation
- Conduct statistical modeling using various approaches, including mixed effect/multilevel models, structural equation modeling, psychometric network analysis, and machine learning techniques
- Develop and document code and pipelines/workflows using R (e.g., metafor, tidyverse, brms) and Python (e.g., scikit-learn, pymc, pandas)
- Train junior team members of the team on best practices for rigorous data preprocessing and analysis, including power analysis, data imputation, bootstrapping/non-parametric techniques, factor analysis, and meta-analysis (e.g., hierarchical/factor-level meta)
- Manage associated laboratory resources and equipment
- Manage research projects and establish collaborations with internal and external researchers
- Deliver presentations and demonstrations of work and represent CABCS at professional meetings
- Author/co-author peer-reviewed publications

What We're Looking For

Basic Requirements

- PhD in Psychology, Cognitive Science, Statistics, or a related field
- Minimum 2 years of post-doctoral experience, with demonstrated independence in conducting advanced statistical modeling
- Broad expertise in statistical methods including (but not limited to): regression (linear/logistic/lasso/ridge/elastic net), mixed models, psychometric modeling, network modeling,PCA/FA, non-parametric methods, and simulation-based inference
- High proficiency in R and Python for data analysis, including statistical modeling, visualization, and diagnostics
- Demonstrated experience with Bayesian modeling, including model comparison, posterior estimation, and priors (e.g., using brms or pymc)
- Minimum 5 years of previous research experience conducting meta-analysis and systematic reviews
  Experience conducting power analyses (frequentist and Bayesian), effect size estimation, assumption testing, and data imputation
- Supervisory experience
- Excellent analytical, organizational, and leadership skills
- Excellent written and verbal communication skills, with a track record of cross-disciplinary collaboration
- Strong publication/presentation record involving sophisticated statistical analysis of cognitive or behavioral data

Preferred Qualifications

- Experience conducting behavioral experiments involving AR/VR technologies
- Experience supporting military-focused research or human performance studies
- Background in UX research for applied systems or application development

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- Expertise in psychometric modeling, including confirmatory factor analysis (CFA) and measurement invariance testing; experience applying these methods to assess the validity of cognitive assessments across populations (e.g., WAIS-IV)
- Experience teaching or mentoring in statistics and research methods at the undergraduate or graduate level, with emphasis on applied instruction in R and Python

Contact Information

Please reference Academickeys in your cover letter when applying for or inquiring about this job announcement.

Contact

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