Educational Testing Service (ETS), with headquarters in Princeton, NJ, is a global not for profit organization whose mission is to advance quality and equity in education. With more than 2,600 global employees, we develop, administer, and score more than 50 million tests annually in more than 180 countries at more than 9,000 locations worldwide.

The Research and Measurement Sciences (RMS) Foundational Psychometrics and Statistics Research (FPSR) Center in ETSs' Research & Development (R&D) Division invites applications for an open-rank Research Scientist position. Specifically, we seek scientists in the areas of applied and computational statistics, machine learning, data science, or psychometrics to embark on exciting research to tackle the challenges of learning and assessment in the digital age. In this era, four realities will dominate assessment: 1)Digitally based assessments; 2)Large volumes of data collected through test takers' assessment actions: 3)Large volumes of other data about individuals who are being assessed; and 4) The growing capabilities of artificial intelligence.

We have launched new research initiatives to prepare ETS to thrive in the face of these realities, and we are looking for research scientists from multiple quantitative disciplines to lead these initiatives alongside the national leaders in assessment, psychometrics and statistics who make up our current staff. The research in FPSR will focus on the following research areas:

- Next generation psychometrics for assessment and learning
- Individualized learning and assessment
- Modelling response processes and sequences of actions
- Modelling educational big data
- Advanced psychometric modeling for assessing complex constructs
- Automated item generation
- Digital assessment design, validity and fairness
- Fairness and score comparability in AI based scoring and digital assessments
- Fairness in assessments across cultures and languages
- Adaptive assessment design
- Advancing survey based group-score assessments
- Modernizing group-score analysis methods and matrix sampling of assessment items

Specific Responsibilities:

- Develop novel psychometric, statistical, artificial intelligence, or machine learning methods for learning and assessment data.
- Design and conduct scientific studies related to the focus areas of the RMS Research Initiative.
- Consult and collaborate on problems related to the scientist's expertise that arise in the context of other ETS research, ETS testing programs, or ETS corporate management concerns.
- Pursue or collaborate in interdisciplinary projects, transferring techniques to new contexts or connecting scientific fields that are usually separate.
- Serve as a subject matter expert in representing research results and the RMS Research Initiative to ETS corporate leadership, clients, and potential funding agencies.

- Develop or assist in developing proposals for external and internal research grants and obtain financial support for new or continuing research activities. Prepare initial and final proposal and project budgets.
- Contribute to advancing innovations in operational assessment programs.
- Manage staff and budgets for research project and grants.
- Mentor junior staff, including research assistants and interns, guiding their work, providing counsel, and facilitating collaboration.
- Participate in dissemination activities by publishing papers in peer-reviewed journals and in the ETS Research Report series; issuing progress and technical reports; presenting seminars at major conferences and at ETS; or using other appropriate communication platforms (e.g., social media or books and chapters) that impact practice in the field or at ETS.
- Develop professional relationships as a representative, consultant or advisor to external advisory and policy boards and councils, research organizations, educational institutions and educators.
- Provide professional leadership in and foster collaboration within the research community.

Requirements:

- PhD. or a Doctorate in statistics, psychometrics, educational measurement, mathematics, computer science, or a related field is required. Rank of the position (i.e., Junior, Full, or Senior) will be commensurate with years of progressively independent substantive research in the area of statistics, artificial intelligence, computer science, or education.
- Research experience applying skills to measurement, education or learning is preferred.
- Candidates must be skilled in modern computer programming and be able to work effectively as a research team member.
- Next generation psychometrics for assessment and learning
- Some combination of the following: psychometrics, machine learning/AI, computational statistics, applied data science, systems engineering, data engineering, data visualization/graphic design, and software development
- Digital assessment design, validity and fairness
- Some combination of the following: theoretical psychometrics, educational measurement, fairness, validity, computational statistics, machine learning/AI, applied data science
- Advancing survey based group score assessments
- Some combination of the following: advanced psychometric modeling, computational statistics, numerical methods/programming, working with complex samples

We offer a competitive salary, comprehensive benefits, possible relocation assistance and excellent opportunities for professional and personal growth. For a full list of position responsibilities and to apply please visit the following link: Research Scientist, Open Rank

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