

INSTITUTE FOR  
SOCIAL RESEARCH & DATA INNOVATION



EMPLOYMENT OPPORTUNITY

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## SENIOR DATA ANALYST JOB OPENING ID 356546

### JOB DESCRIPTION

[IPUMS](#) is developing a U.S. record linkage database of unprecedented scale, spanning 1850 to the present, and including information on hundreds of millions of persons from censuses, surveys, vital statistics, and administrative records. We are seeking a researcher to be the point person for this project.

The backbone of the project involves linked full-count census data spanning the period 1850 to 1950. These data will be augmented by Social Security and other administrative records, and partner organizations are performing additional linkages between the historical database and modern census and survey data.

We are nearing the conclusion of the first project phase, which has developed software infrastructure and created an initial set of linked censuses. We now plan an extension of that work, adding new data, improving the software, and testing new linkage techniques.

The Senior Data Analyst will be part of a team composed of faculty, staff, software developers, and students. They will meet regularly with the developers and the project leadership group. The researcher may contribute to papers and presentations at academic conferences that describe the linking methodology, assess data quality, and advertise the database.

### RESPONSIBILITIES

- **30% Develop and improve machine learning algorithms.** Explore alternative machine learning linking strategies and compile comparative statistics for quality assessment.
- **20% Incorporate new data sources into linking methods.** Add new data to the system, resolving conflicts between links derived from alternative sources.
- **10% Assist implementation of linking methods into production code.** Work with software developers to implement selected linking approaches in a robust, metadata-driven system.
- **5% Develop a process for updating and archiving links.** Work with the software team to devise a system for editing links throughout the system while storing older versions for reference.
- **10% Perform data quality assessments.** Develop robust, reproducible methods to confirm the validity of linked data for public dissemination.
- **10% Document the linking methodology.** Write text for both internal and external

audiences describing the linking method. This might include commented code, web text, working papers, or conference presentations.

- **10% Develop training data.** Devise appropriate training data to inform machine learning and instruct student workers in its creation.
- **5% Meet with the project leadership group.** Participate in regular meetings with the leadership team to strategize, set priorities and coordinate with stakeholders.

**Salary Range: Annual salary starting at \$59,000- \$69,000 depending on qualifications.**

**We would prefer candidates who can work hybrid (on-site at least once a week) or fully onsite; this position does not require being fully onsite.**

## QUALIFICATIONS

### Required Qualifications:

- Master's degree or equivalent with 1 or more years research training in a population-related field or data science
- Demonstrated expertise in one or more statistical software packages such as Stata or R.
- Experience working with population microdata
- Excellent written and verbal communication skills

### Preferred Qualifications:

- Experience performing large-scale record linkage.
- Experience with a programming language such as Python.
- Experience with historical census microdata.

*Please detail in your cover letter your experiences with data, including relevant courses, internships, and jobs.*

## ABOUT THE DEPARTMENT

[IPUMS](#) is part of the Institute for Social Research and Data Innovation ([isrds.umn.edu](#)). ISRDI is an interdisciplinary research organization that includes the Minnesota Population Center ([pop.umn.edu](#)), the Life Course Center ([lcc.umn.edu](#)), and the Minnesota Research Data Center ([mnrdc.umn.edu](#)).

ISRDI supports a work-life balance for our staff with 40-hour work weeks and flexible work hours. The University also offers excellent health insurance, retirement benefits, and tuition assistance! IPUMS encourages and supports staff training and development.

Diversity and inclusion are core values of our organization! We are committed to creating a work environment that celebrates and promotes diversity and advances a culture of inclusion for persons from historically excluded and underrepresented groups. We strongly encourage members of underrepresented groups to apply.

## APPLICATION PROCEDURE

Please apply using the University of Minnesota's online employment system:

External candidates: <https://hr.myu.umn.edu/jobs/ext/356546>

Internal candidates: <https://hr.myu.umn.edu/jobs/int/356546>

Application requirements include a resume **and a cover letter** describing your interest and qualifications in the position. Questions concerning the application process may be addressed to Alex Lunde, HR & Operations Manager, at [isrdi-jobs@umn.edu](mailto:isrdi-jobs@umn.edu).

Any offer of employment is contingent upon the successful completion of a background check. Our presumption is that prospective employees are eligible to work here. Criminal convictions do not automatically disqualify finalists from employment.