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# GRADUATE RESEARCH ASSISTANT-IPUMS NHGIS
## JOB OPENING ID 340855

## JOB DESCRIPTION

IPUMS curates the world's largest collection of individual-level population and health survey data freely accessible online (ipums.org). Thousands of researchers use these data worldwide, and you can contribute to the support, development, and enhancement of this public good.

We seek a graduate research assistant to contribute to the IPUMS National Historical Geographic Information System (NHGIS). NHGIS provides summary tables and time series of population, housing, agriculture, and economic data, along with GIS-compatible mapping files, for years from 1790 through the present and for all levels of U.S. census geography. The primary responsibility for this position is to help integrate new data from the 2020 Census and the American Community Survey into NHGIS. This will entail some combination of authoring metadata, extending NHGIS time series to include the new data, and producing crosswalks that describe spatial relationships among census geographic units from 2020 and earlier years.

We are looking for a smart, technically-minded person who enjoys working with data. Diversity and inclusion are core values of our organization. We aspire to create a team that represents the diversity of our city, our region, and our world, and to create a space that encourages and embraces inclusiveness, equal opportunity, and respect. We strongly encourage women and members of under-represented groups to apply.

IPUMS is part of the Institute for Social Research and Data Innovation (isrdi.umn.edu), which includes the Minnesota Population Center (pop.umn.edu), the Life Course Center (lcc.umn.edu), and the Minnesota Research Data Center (mnrdc.umn.edu).

**We are interested in hiring immediately, but we would also wait until the fall for the right candidate.**

## RESPONSIBILITIES

The research assistant will work on one or more of the following tasks, with the assignment depending partly on the assistant's skills and interests: 1. Develop metadata describing the tables, variables, and categories in new geographic summary files from the 2020 Census and the American Community Survey (ACS). 2. Develop metadata to extend NHGIS time series tables,

linking comparable statistics from multiple censuses and ACS years. 3. Extend our collection of "geographic crosswalks," which supply interpolation weights for allocating data from one year to another year's geographic units (e.g., from 2020 census blocks to 2010 census tracts).

Tasks 1 and 2 involve editing metadata in Microsoft Excel and using a custom IPUMS tool to transfer metadata between Excel and the NHGIS metadata database. These tasks provide an opportunity to learn about census data concepts and relational databases and to develop skills in using SQL to query a database. Task 3 involves using Python, R, or SQL to build various crosswalks based on spatial relationships among geographic units. This task would require some previous experience with scripting, and it would provide an opportunity to learn about census geography and to develop new skills with scripting and GIS.

## QUALIFICATIONS

**Required**:
- Enrollment in a graduate program at the University of Minnesota
- Excellent computer skills & ability to learn new information technology
- Strong written, verbal, and interpersonal communication skills
- Strong attention to detail

**Additional selection criteria**:
- Experience with one or more of the following:
  o Microsoft Excel, including using formulas
  o Programming or scripting (especially Python)
  o Relational databases and SQL
  o Geographic information systems (GIS)
- Experience with U.S. census data and/or one of the IPUMS databases
- Research or career interests that would involve using U.S. census geographic data
- Demonstrated ability to work independently and as a member of a diverse team

## BENEFITS

The annual salary for a beginning graduate student on a 50% appointment is approximately $24,897 per year, plus tuition and health benefits during the fall and spring semesters. These positions are renewable subject to performance and the availability of funds.

## APPLICATION PROCEDURE

Please apply using the University of Minnesota's online employment system at the following link: humanresources.umn.edu/jobs. Search job opening ID 340855. Application requirements include a resume/cv and a cover letter describing your interest and qualifications. Questions concerning the application process may be addressed to Rob Strnad, Operations Coordinator, at isrdi-jobs@umn.edu.