JOBS DESCRIPTION

Research Software Developer

Definition of Class
This is a professional position in which the incumbent works closely with principal investigators, research faculty and scientists to gather data and provide technical guidance. The incumbent develops and implements innovative scientific software from concept to delivery.

Examples of Work Performed
Designs, develops, and implements web-based and desktop GIS interfaces and systems for in-house developed numerical models, GIS and remote sensing applications, scientific visualization and post-processing software, computational geometry modules and numerical models by taking advantage of state-of-the-art innovative methods, techniques and algorithms.

Develops dynamic web-mapping systems using open source GIS or ArcGIS modules that incorporate a wide variety of APIs.

Collaborates with internal team to provide solutions for given requirements, budget and time constraint.

Provides technical guidance to faculty, research scientists and graduate students regarding general software engineering issues, programming techniques and algorithms, and scientific software packaging for release to third parties.

Creates ArcGIS and open source GIS-based applications, either as standalone modules or to accompany in-house developed scientific software.

Develops software utilizing JavaScript, web mapping (Leaflet, Mapbox, OpenLayers, or Google Maps) Geospatial data (SHP, KML, GeoJSON), OpenGeo (GeoServer, PostGIS, GDAL, QGIS) as well as OGC standards (WMS, WFS).

Contributes to proposal preparation and scientific publications.

Performs tests to check in-house developed software running on multiple platforms in order to detect and diagnose eventual bugs and mistakes, and develops and implements appropriate corrective actions as needed.

Provides training to internal and external users of the in-house developed software packages and assists the users of such software packages by answering their questions, by providing help to solve their problems, and by correcting the bugs or mistakes reported.

Assigns and monitors the work of student assistants and programmers.

Performs similar or related duties as assigned or required.

Essential Functions
These essential functions include, but are not limited to, the following. Additional essential functions may be identified and included by the hiring Department.

1. Designs, develops, enhances, and supports web-based and desktop GIS interfaces and systems for in-house developed numerical models, GIS and remote sensing applications, scientific visualization software, computational geometry modules and numerical models.
2. Stays abreast of developments in hardware and software and provides technical guidance in general software engineering issues, scientific programming, and software packaging for release to third parties.

3. Conducts training for software use and assists the users with solving problems that may arise with the software.

**Minimum Qualifications**
These minimum qualifications have been agreed upon by Subject Matter Experts (SMEs) in this job class and are based upon a job analysis and the essential functions. However, if a candidate believes he/she is qualified for the job although he/she does not have the minimum qualifications set forth below, he/she may request special consideration through substitution of related education and experience, demonstrating the ability to perform the essential functions of the position. Any request to substitute related education or experience for minimum qualifications must be addressed to The University of Mississippi's Department of Human Resources in writing, identifying the related education and experience which demonstrates the candidate's ability to perform all essential functions of the position.

**Physical Requirements:** These physical requirements are not exhaustive, and additional job related physical requirements may be added to these by individual agencies on an as needed basis. Corrective devices may be used to meet physical requirements.

- **Physical Exertion:** The incumbent may be required to lift up to approximately 50 pounds.
- **Vision:** Requirements of this job include close vision and color vision.
- **Speaking/Hearing:** Ability to give and receive information through speaking and listening.
- **Motor Coordination:** While performing the duties of this job, the incumbent is regularly required to use hands to finger, handle or feel objects, tools, or controls; and to reach with hands and arms. The incumbent is frequently required to sit. The incumbent is occasionally required to stand or walk; and to stoop, kneel, crouch or crawl.

**Experience/Educational Requirements:**

- **Education:** Bachelor's Degree in Engineering, Computer Science, Geography or related field from an accredited four-year college or university

  AND

- **Experience:** Two (2) years of experience related to the above described duties

  **Substitution Statement:** Related experience may be substituted for education, on a basis set forth and approved by the Department of Human Resources.

**Interview Requirements**
Any candidate who is called for an interview must notify the Department of Human Resources in writing of any reasonable accommodation needed prior to the date of the interview.

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