

**MICHIGAN TECHNOLOGICAL UNIVERSITY
CLASSIFICATION DESCRIPTION**

Job Title: RESEARCH ENGINEER/SCIENTIST II
(pay grade 250)
Department: MICHIGAN TECH RESEARCH INSTITUTE
(Based in Ann Arbor)
Salary Guideline: MINIMUM \$45,000 – MAXIMUM \$90,000
Exempt (Y/N): YES
Supervisor: RESEARCH ENGINEER/SCIENTIST II

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| POSITION DURATION DEPENDENT UPON EXTERNAL FUNDING |
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SUMMARY: Fulfill the position's needs for statistical analysis, mathematical programming, *in situ* data collection systems, and geospatial research. Combine analytical skills with new and existing research projects needing a variety of remote sensing, GIS, data collection, and code-writing skills. The position is based at MTRI in Ann Arbor, MI (www.mtri.org).

ESSENTIAL DUTIES AND RESPONSIBILITIES include the following. Other duties may be assigned.
Participate as an integral team member on multi-disciplinary research relating to applying technological skills to solving governmental and societal needs.
Provide research contributions for projects needing analytical skills including mathematics, statistics, and programming.
Develop research interests into new funded programs through creation and submission of competitive research grants in collaboration with MTRI, Michigan Tech, and other researchers.
Provide expertise on hardware/software interfaces for *in situ* data collection systems.
Provide research software development for on-line and desktop geospatial tools using open source and ESRI-based geospatial interfaces.
Contribute technical expertise to symposia, journal articles, and technical reports.
Present results to sponsors and prospective collaborators.
Participate in proposal writing, and lead proposals under direction of senior MTRI staff.

SUPERVISORY RESPONSIBILITIES:

Supervision will be exercised over more junior staff and student interns on a project-by-project basis.

QUALIFICATION REQUIREMENTS: To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

EDUCATION and/or EXPERIENCE:

REQUIRED:

PhD in statistics, mathematics, remote sensing, computer science, or electrical engineering.

OR

Masters's degree in statistics, mathematics, remote sensing, computer science, or electrical engineering and a proven track record of performance with 5-7 years of experience.

OTHER SKILLS AND ABILITIES:

REQUIRED:

Demonstrated ability to obtain a DoD security clearance, which requires United States citizenship.

Excellent interpersonal, oral/written, and presentation communication skills.

Demonstrated experience in statistical analysis of data using one or more major statistical packages such as R, SAS, or SPSS.

Understanding and knowledge of remote sensing and GIS concepts, including sensor platforms, data formats (proprietary and open source), and geospatial modeling tools.

Demonstrated knowledge of common GIS and remote sensing software environments.

Ability to customize and develop analysis routines for applying them to innovative research.

Demonstrated experience with one or more object oriented programming languages (VB, VB.NET, C++, C#, Java).

Demonstrated ability to mathematically model data using MATLAB.

Demonstrated experience in providing leading statistical analysis using advanced mathematical concepts for multiple projects.

Demonstrated ability to participate in team projects as a participant and as a project lead.

Previous participation in proposal writing.

Ability to communicate complex ideas clearly at meetings and symposia.

DESIRABLE:

Demonstrated ability with programming, designing, and implementing electronic circuitry for hardware and software interfaces applicable to *in situ* data collection.

Experience in writing and applying KML for geospatial visualization.

The qualifications and specifications mentioned above are intended to indicate the kinds of tasks and levels of work difficulty that will be required of positions that will be given this title and shall not be construed as declaring what the specific duties and responsibilities of any particular position shall be. It is not intended to limit or in any way modify the right of any supervisor to assign, direct, and control the work of employees under his/her supervision. The use of a particular expression or illustration describing duties shall not be held to exclude other duties not mentioned that are of similar kind or level of difficulty. The position will be filled based on qualifications regardless of Race, Color, Disability, Religion, Sex, Sexual Orientation, Gender Identity, National Origin, Height, Weight, Age, Veteran or Marital Status.

October 19, 2009