

Position Title:

Computer Scientist (Contractor)

Hiring Agency:

US Geological Survey—Great Lakes Science Center (1450 Green Rd., Ann Arbor, MI 48105)

Contact:

Dr. Peter Esselman, pesselman@usgs.gov; T. 734-214-7267

Duration of appointment:

Full time for a maximum of 2 years

Compensation:

\$36.26 per hour

Travel required:

Position will require occasional overnight travel reimbursed by USGS

Position description

Seeking a computer scientist with a recently awarded Master's degree to support a program to quantify the Great Lakes ecosystem using autonomous vehicles and machine vision. To be eligible, you must provide proof of graduation within the last year. The incumbent will join a research team using autonomous underwater vehicles (AUVs) and machine vision to quantify biological and physical features of the lakebed to support fisheries management decision making at multiple scales. The AUVs gather large volumes of color and grayscale imagery near the lakebed. These data are, in turn, used to quantify three-dimensional lakebed structure, classify geologic substrates, and count fishes and other organisms using algorithms contributed by multiple collaborators. The primary roles of the computer scientist will be to help (1) implement and improve contributed machine vision algorithms to quantify lake physical and biological features; (2) generate science products and peer-reviewed publications; (3) coordinate with external partners engaged in algorithm development and data pipeline engineering; and (4) contribute to management of large quantities of imagery. The contractor should expect to work 40 hours per week (except during holidays and leave).

Why work for USGS?

As the Nation's largest water, earth, and biological science and civilian mapping agency, the U.S. Geological Survey (USGS) collects, monitors, analyzes, and provides scientific understanding about natural resource conditions, issues, and problems. The diversity of our scientific expertise enables us to carry out large-scale, multi-disciplinary investigations and provide impartial, timely, and relevant scientific information to resource managers, planners, and other customers related to the health of our ecosystems and environment; natural hazards that threaten us; natural resources we rely on, and the impact of climate and land-use changes. For more information about the USGS please visit <http://www.usgs.gov>. In the Great Lakes region, USGS is the federal organization responsible for monitoring fisheries status and trends in support of the interjurisdictional fisheries management.

Qualifications

The incumbent will have a recent (within 1 year of graduation) Master's Degree or graduate equivalent degree in computer science, information science, information systems management, statistics, mathematics, engineering, geography, or remote sensing.

Specific skills should include the ability to solve problems by developing programs in Python and/or other object-oriented languages and demonstrated success in the use of digital signal processing, image processing, machine learning, and/or deep learning. A familiarity with the Linux and Windows operating systems would be an advantage. The candidate will be expected to take a leadership role in developing algorithms and code supporting data collections from a variety of hardware systems and have demonstrated ability to improve their skills and keep current in their field. Other requirements include debugging skills, attention to detail, having the ability to form a plan and adapt it as issues arise, work as a member of a team, and be able to express oneself effectively in writing and verbally. The use of tools for revision control of code and documentation, parallel processing, and management of large datasets is expected.

To apply:

- Email 2-page resume and a cover letter to Dr. Peter Esselman (pesselman@usgs.gov).
- Cover letter should highlight the ways that your interests, education and experience make you the ideal candidate for the position.
- Suitable candidates will be interviewed as applications are received until the position is filled.