DATA ENGINEER (multiple positions)

Status: Independent Contractor, Seasonal
FLSA Classification: Non-exempt
Compensation Type: Contracted Day Rate
Benefits Eligible: No
Reports to: Director, Data Systems
Location: Onboard E/V *Nautilus*, worldwide

BACKGROUND

The Ocean Exploration Trust (OET) is a 501(c)(3) nonprofit organization—founded in 2007 by Dr. Robert Ballard—with the aim of exploring the ocean and seeking new discoveries while pushing the boundaries of technological innovation, education, and outreach. OET owns and operates E/V *Nautilus*, a 224-foot exploration vessel equipped with acoustic mapping systems, remotely operated vehicles (ROVs), and other state-of-the-art exploration technologies. Expeditions aboard E/V *Nautilus* are conducted in partnership with the organization's primary sponsors, NOAA Ocean Exploration, as well as in close collaboration with the ocean exploration community. Through telepresence, E/V *Nautilus* expeditions are streamed live, providing scientists and the public with real-time access to exploratory research and the excitement of discovery. Data and samples from expeditions are made publicly available to provide a foundational resource that stimulates further research, exploration, and management activities.

POSITION OVERVIEW

Data Engineers are typically on board for two to six weeks at a time, with one Data Engineer berth available per cruise. OET anticipates this position supporting 6 weeks to 3 months of operations, as both parties' schedules permit. Applicants must have proper authorization to work in the US, a current passport, and no travel restrictions.

The Data Engineer's responsibility is to help ensure the success of the scientific and outreach mission goals by performing the following duties in collaboration with the rest of the science and operations team:

PRIMARY RESPONSIBILITIES

- Maintenance of data acquisition computers and software (Linux & Windows)
- Monitor established software for data aggregation and replication
- Assist the ROV team with topside integration of new scientific instrumentation
- Maintain ship network - including switches, routers, traffic, physical cabling, WiFi Access Points (APs), and Keyboard/Video/Mouse (KVM) subsystem
- Maintain satellite dish uplinks (SeaTel 9711, Starlink, cellular antenna)
- Manage traffic shaping and load balancing of the ship's Wide Area Network (WAN) interfaces
- Administer file servers, manage domain credentials, etc
- Support access to, and use of, on-board scientific data collected, as well as internet access for consumer devices
- Maintain computers used for ROV operations, data collection & entry, and related supporting systems, as required
- Maintain Data Lab printers

- Provide general IT support to all science party members (e.g., connect to WiFi, access printers, access shared folders)
- Maintain the ship's VoIP phones
- Ensure uptime and quality of video streams leaving the ship
- Propose and develop incremental improvements to software, configurations, and visualization, as time allows
- Maintain maximum uptime of shipboard scientific sensor suite, including (but not limited to): Multibeam sonar, sub-bottom sensor, meteorological instruments, XBT, and USBL
- Support the Science Manager's software tools and data entry processes to ensure completeness and correctness of logged and processed data
- Support access to data for scientists ashore and the OET production team

MUST BE ABLE TO
- Obtain a US Passport or appropriate visa.
- Deploy at sea for up to 30-60 contiguous days.
- Be physically and mentally capable of meeting the demands of living and operating aboard a working exploration vessel, and must be able to live in close quarters with other expedition team members (including a shared stateroom).
- Maintain a pleasant and professional demeanor under challenging conditions while interacting with fellow expedition team members and while interacting with the public online.
- Contribute to an inclusive work environment in which all individuals are treated with respect and dignity.
- Support OET's mission of training the next generation of STEM professionals by helping to support junior personnel participating in the expedition by engaging with them and helping to provide a positive learning experience at sea.
- To the level that is relevant to this position, contribute to OET's mission to inspire and engage youth and the public by participating in outreach and/or port tours during the expedition.
- Prioritize unexpected repairs/issues, maintenance, and new work with guidance from the Director of Data Engineering
- Keep a continuous pace of operations while at sea, including two-day turnarounds between cruises
- Be available in an on-call capacity 24/7 while at sea (no set watch schedule)

SKILLS REQUIRED
- Intermediate Linux system administration experience - including cron, apache, sudo, and configuration of new OS installations
- Experience with a scripting language (bash, perl, python)
- Understanding of version control systems (git)
- Intermediate familiarity with MacOS and Windows administration
- Experience troubleshooting and/or repairing operational computers and communications hardware
- Experience with file sharing protocols (e.g., NFS, SMB, AirDrop)
- Familiar with basic hand tools and electrical tools
- Solid understanding of TCP/IP network design; familiarity with VLAN implementation
- Experience configuring and troubleshooting serial protocols, such as RS232 and RS485
- Removal and installation of various topside sensors for maintenance, diagnostics, and repair
- Strong team player with a proactive, service-oriented attitude

- Demonstrated ability to work collaboratively with an international, multidisciplinary, diverse team of engineers, scientists, educators, and students
- Possess strong creative, analytical, and problem-solving skills
- Excellent multi-tasking and time management skills
- Excellent verbal and written communications
- Ability to quickly grasp complex system relationships and clearly communicate these concepts to personnel without an engineering background

PREFERRED QUALIFICATIONS & EXPERIENCE

- Advanced Linux system administration
- Experience with data processing (perl, python, matlab)
- Experience with databases
- Experience with the setup and maintenance of virtual machines
- Experience implementing advanced software/systems engineering concepts
- Familiar with the operation and maintenance of satellite communication systems
- Familiar with Wide Area Network interface management, traffic shaping, load balancing, etc (especially with Fortinet FortiGate products)
- Familiar with WiFi network management (especially with Ubiquiti UniFi products)
- Experience managing Active Directory domains
- Experience with video streaming (physical encoders, streaming codecs, YouTube)
- Familiar with scientific sonar systems
- Resistance to motion sickness
- Prior experience on research vessels

PHYSICAL DEMANDS

This is largely a sedentary role; however, at-sea activity to troubleshoot network and satellite systems in narrow compartments and carry up to 50 lbs is required.

POSITION TYPE/EXPECTED HOURS OF WORK

This is a contract position with an estimated at-sea duration of two to six weeks at a time, with one Data Engineer berth available per cruise. OET anticipates this position supporting 6 weeks to 3 months of operations, as both parties' schedules permit. This position does not have a set watch schedule and must be available in an on-call capacity 24/7 while at sea.

COMPENSATION

Day rate will be competitive with standard research vessel rates and commensurate with experience. OET will cover all costs associated with travel, room, and board.

ELIGIBILITY & WORK AUTHORIZATION

In compliance with federal law, all persons hired will be required to verify identity and eligibility to work in the United States and to complete the required employment eligibility verification document form upon hire.

EQUAL EMPLOYMENT OPPORTUNITY

Ocean Exploration Trust is an Equal Employment Opportunity employer. It is our policy to prohibit discrimination and harassment of any type. We provide equal employment opportunities to all persons

without regard to race, color, religion, sex, national origin, age, genetic information, disability, veteran status, political beliefs, sexual orientation, and marital and family status. Ocean Exploration Trust is committed to creating an inclusive work environment and organizational culture.

TO APPLY

Deadline: Open until filled on a rolling basis
Application: Please submit your CV via the form linked below.

Upload your application at: https://bit.ly/3ZoUWt3
Please contact us at careers@oet.org if you have any questions or issues with your application submission.