The University of Hawaii invites application for
Graduate Research Assistant for Campus Energy Data Science

Department: Hawai‘i Sea Grant
Center for Smart Building and Community Design

Principal Investigator: Eileen Peppard
Opening date: June 21, 2022
Application review begins: July 1, 2022
Closing date: Continuous until filled
Title: Graduate Research Assistant
Number of positions: One (1) GRA at 20 hours/week
Monthly type: 11-month
Full time/part time: Part time (20 hours per week)
Salary: Step 15, $29,148 to Step 18, $32,784, depending on level of education and experience.
Tuition: Tuition waiver
See https://manoa.hawaii.edu/graduate/important-information/
Temporary/Permanent: Temporary, ends by April 30, 2023
Start date: As soon as possible

Research Project Description:
The University of Hawai‘i (UH) is mandated by state law to achieve a net-zero energy goal for all campuses by 2035, pursuant to Hawai‘i Revised Statutes, section 304A-119. To achieve this goal, the University of Hawai‘i has invested in an advanced metering system (AMI) at its Manoa Campus. UH is interested in getting its research departments and students (undergraduates, graduates and post-doctorals) involved in analyzing and exploiting this “big data” set to better understand the energy consumption trends, impacts of management decisions, and to inform future decisions to help curtail energy waste. This will be done by automating statistical analyses of various types of data, including building energy meter, campus Hawaiian Electric Company (HECO) meter, temperature sensor, enrollment, population, operational building usage, air-conditioning and room use scheduling, and efficiency projects data, and integrating the data into different data products to produce meaningful analyses. These analyses will be used in a variety of ways, for example: (1) Facilities maintenance may want to know, from an energy consumption perspective, if a meter is approaching the critical limit of the distribution equipment, if a building is performing as expected, or if a building’s performance is in line with
that of other buildings; (2) Administration might want to know how well the campus is performing from a cost or graduation aspect; (3) the Planning Office may want to understand how to improve campus utilization; or (4) the UH Office of Sustainability, as part of the OVPA, is looking to explore the most effective means of analyzing and presenting data to different stakeholders monthly or annually, depending on specific stakeholder needs. The research assistant will work with guidance from Eileen Pepard, Principal Investigator, Hawai‘i Sea Grant Center for Excellence for Smart Building and Community Design. To learn more about the center: https://seagrant.soest.hawaii.edu/smart-building-and-community-design/

**Minimum Qualifications:**

1. Graduate student in computer science with an interest in building energy efficiency, renewable energy, resilience, energy management and energy education.
2. Proficiency in database management, SQL, data acquisition using an API, documentation using Github, automating updates of energy dashboards.
3. 3.0 grade point average (B grade or better) in relevant course work.
4. Ability to hold virtual meetings (must have internet access during times of remote working).
5. Excellent organizational and research skills, and written and verbal communication.
6. Ability to work independently, work well with others, follow directions, and complete tasks on time.

**Desirable Qualifications:**

1. Software: experience using Tableau

**Duties and Responsibilities:**

The graduate research assistant will support the project in the following activities:

1. Create a database for a wide variety of data streams
2. Create SQL queries for analysis purposes
3. Automate data acquisition
4. Automate refresh of Tableau graphs/dashboards
5. Document processes in Github
6. Provide the research team with “how to videos” when requested

**How to Apply:**

Please email the following to Eileen Pepard epeppard@hawaii.edu (or use UH File drop)

1. Letter of interest
2. Resume
3. Undergraduate and graduate transcripts (they do not need to be official)
4. Please list at least two references (such as employers or instructors) who may be contacted.
5. Please include your name in the file names.