Job Title	Building Energy Modeling and Data Analyst - Intern
PVN ID	VA-2205-004795
Category	Research
Location	OFFICE OF SR. UNIV DEAN FOR ACADEMIC AFFAIRS
Department	CUNY Building Performance Lab
Status	Part Time
Hourly Rate	$16.00-$18.00
Hour(s) a Week	0.00
Closing Date	Jul 19, 2022 (Or Until Filled)

General Description

Organizational Description:

The CUNY Building Performance Lab (CUNY BPL) provides mission-critical support to the Department of Citywide Administrative Services' Division of Energy Management (DEM) and its client agencies for implementing New York City's ambitious climate and clean energy policies. CUNY BPL staff have expertise in a wide range of areas related to building systems, operations and data, and the design and construction process. This includes: energy data analytics (monthly and real-time meter data); building energy modeling (EnergyPlus and others); measurement and verification (IPMVP and ASHRAE protocols); HVAC systems; building controls; data acquisition (via BAS or field equipment); and operational improvements via Pacific Northwest National Lab's Building Re-tuning protocol. The organization works collaboratively with industry professionals, other research institutions, and several of the US DOE's National Labs; and is a participating member of the Center for Building Energy Smart Technologies (BEST), an Industry-University Cooperative Research Center funded by the National Science Foundation (NSF) (https://www.nsf.gov/awardsearch/showAward?AWD_ID=2113874) in city-scale building energy systems and informatics. CUNY BPL also runs an extensive internship program for CUNY students that provides real world experience and hands-on work in each of the organization's program areas.

General Description:

The CUNY BPL Technical Services (TS) team is seeking interns to work on applied research projects in the building energy and efficiency field through June 30, 2023, and possibly through 2024. The TS team supports DEM with pre- and post-retrofit measurements on energy efficiency and carbon reduction projects, with the goal of characterizing project results and improving realization rates. CUNY BPL's TS team also researches best practices and next generation tools and techniques to streamline the measurement and savings prediction process, conducts in-depth analyses, develops guidance documents and training materials, and provides field equipment and technical assistance to agency personnel for project development and execution. This work includes general system measurement and performance evaluation to support planning, implementation, and verification across a wider range of teams and activities at DCAS DEM.

CUNY BPL is working with DEM to research the viability of generating building energy models (BEM) for the entire municipal portfolio.

Other Duties

Work will involve researching and implementing one automated workflow using various data sources such as CityGML, BSXML, energy data, asset inventories, or asset condition reports to generate EnergyPlus models for a set of municipal facilities. We will also evaluate

open source methodologies for the automated calibration of energy models using measured energy consumption. EnergyPlus models for the most common measures and building prototypes in the Local Law 97 Implementation Action Plan

https://www1.nyc.gov/assets/dcas/downloads/pdf/energy/reportsandpublication/local_law_97_implementation_action_plan_2021_report.pdf will be developed to enable parametric analysis, and computer hardware and software resources will be estimated to enable a full set of "digital twins" for the municipal portfolio. Workflows will be tested in two buildings undergoing energy retrofits and carbon reduction projects. Work performed in this position can qualify for NCARB AXP or EIT credits.

Qualifications

Ideal candidate will be a detail oriented self-starting individual enrolled in a degree program in engineering (electrical, mechanical, environmental), computer science, data science, physics or mathematics, and be proficient in Microsoft Office Suite, BEM, OpenStudio, EnergyPlus, Python, GIS, XML, PostgreSQL.